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Reorganizing the Military Health System

Should There Be a Joint Command?

SUSAN D. HOSEK

GARY CECCHINE

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PREFACE

This report documents research on the organization of the Military Health System (MHS). This research was initiated as part of a larger project to assess the organization and cost of the Department of Defense's TRICARE health benefits program. A focus of this initial work was identifying organizational models in the civilian managed-care sector that might be applied to TRICARE. Subsequently, the research expanded when the National Defense Authorization Act for Fiscal Year 2000 requested a study of the expansion of joint medical operations, including an assessment of the merits and feasibility of establishing a joint command. Responding to this request required further investigation of medical readiness and joint organizations and the development of alternative joint-command structures.

This report should be of interest to those in the Congress, the Department of Defense, and elsewhere who are interested in the Military Health System. Portions of this report may also interest those concerned about the design of health-care organizations, especially in the public sector.

This research was sponsored by the Under Secretary of Defense (Personnel and Readiness). It was carried out jointly by RAND Health's Center for Military Health Policy Research and the Forces and Resources Policy Center of the National Defense Research Institute (NDRI). NDRI is a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, the unified commands, and the defense agencies.

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SUMMARY

The National Defense Authorization Act for Fiscal Year 2000 requested that the Secretary of Defense submit a study identifying areas of military medicine in which joint operations might be increased, including organization, training, patient care, hospital management, and budgeting. The study team was asked to discuss the merits and feasibility of establishing the following:

1. A joint command
2. A joint training curriculum
3. A unified chain of command and budgeting authority.

The Under Secretary of Defense for Personnel and Readiness, whose responsibilities include health programs, asked RAND to conduct this study.

BACKGROUND

Since the end of World War II and the establishment of the Air Force, the question of whether to create a unified military health system (MHS) has arisen repeatedly. Over the years, the system has retained its traditional structure, with separate Army, Navy, and Air Force medical departments. However, in response to the many studies that recommended further consolidation, the Department of Defense (DoD) gradually enhanced the authority of the Assistant Secretary of Defense for Health Affairs (ASD/HA), particularly in the areas of resource management and civilian contract responsibility. The most recent change was made in 1992. At that time, the DoD was begin-

ning to implement managed care and the senior leadership was unanimous in their concern that reorganization might impede this significant implementation effort. Now that the new managed-care program, called TRICARE, is operational, the question of military health system organization has arisen again.

APPROACH

The military health system has two missions: (1) to provide TRICARE, a comprehensive health benefit, to eight million beneficiaries and (2) to provide, and maintain readiness to provide, medical support to military operations. We looked to the civilian managed-care experience for evidence on effective organizational structures for TRICARE. We then considered the activities and organizational structure for operational medicine, and the coordination required to carry out two missions at the same time. Drawing on organizational models from the civilian sector and within the DoD, we developed five organizational alternatives and assessed their strengths and weaknesses.

We draw on two sources of information to identify effective organizational practices in the civilian sector: (1) the literature on organizational structure, in general and specifically in the managed-care industry, and (2) the organization and management practices in four leading managed-care companies.

The four companies span the managed-care activities of the military system. TRICARE offers managed-care health plans, with health care delivered in military treatment facilities (MTFs) and through civilian managed-care contracts. Thus, the system includes a large integrated health-delivery system and a health plan based on this delivery system, but with a substantial component of contract care. We visited two health plans, one with its own integrated delivery system and one that contracts for all care, and two integrated delivery systems that contract to provide health services to various health plans. The four managed-care companies we studied are Kaiser Permanente, UnitedHealthcare, Sutter Health, and Tenet.

To address the more unique aspects of the military health system, we draw primarily on government studies and documents. These include, for example, the many studies of the military health system and documents describing its current structure and joint doctrine

and organization. We also interviewed current and recent senior government officials, including members of the Defense Medical Oversight Committee, senior medical officials, and congressional staff. Finally, we visited one of the 12 TRICARE regions, Region 11 in the Pacific Northwest, where we interviewed TRICARE management staff and military hospital and clinic staff. Region 11 has the most experience with TRICARE and is currently a test bed for some important management innovations.

RESULTS

Based on the experiences of civilian managed-care organizations, the unique requirements of operational medicine, and the perspectives of senior DoD officials, the military health system organization would include the following:

- Clear assignment of responsibility within the MHS and possibly a single authority
- A coherent TRICARE health-plan management structure with designated local area managers
- Assignment of authority over resources and other decisions, consistent with the assignment of responsibility
- Strong accountability and incentives
- Mechanisms that ensure that the services have highly effective operational medical support and the medical-line relationships this support requires
- Clear assignment of responsibility, resources, and authority for readiness and mechanisms for coordinating with peacetime health-care delivery.

In this report, we consider five alternative organizational structures:

- The current structure
- Modification of the current structure to unify health-plan management in TRICARE and separate it from MTF management

- Joint command with three component commands, responsible for the MTFs, TRICARE management, and medical readiness in each service
- Joint command with service and TRICARE components, with the service components responsible for the MTFs and medical readiness, and the TRICARE component responsible for the health plan
- Joint command with readiness and TRICARE components, with the readiness component responsible for medical readiness and the TRICARE component responsible for the MTFs and TRICARE.

Given the uniqueness of the MHS, it is impossible to determine how successful the alternatives would be, relative to each other and the current organizational structure. Nevertheless, the experience of other managed-care organizations argues for strengthening the TRICARE management structure and consolidating responsibility for TRICARE resources. A test of an approach that is similar to, although less ambitious than, the changes we consider is now underway in Region 11. The test should reveal whether reorganization of the current regional structure would improve TRICARE management without weakening the service ties that many believe are critical to medical readiness.

If the Region 11 test shows that reorganization at the regional level can be effective without any reorganization at higher management levels, we recommend the more extensive changes suggested in our second alternative—modification of the current structure to unify health-plan management in TRICARE and separate it from MTF management. Otherwise, a joint command should be considered. It is possible that both a joint command and a restructured TRICARE organization within the command would constitute the most effective organization.

ACKNOWLEDGMENTS

We would like to thank Ms. Jeanne B. Fites, Deputy Under Secretary of Defense for Program Integration for her assistance and guidance in monitoring this effort.

We conducted numerous interviews during this study, and we are indebted to those who gave their time and insights by participating candidly. They include members of the Defense Medical Oversight Committee as well as other current and former officials in DoD, the military services and the congressional staffs. Others provided us valuable information and assistance by answering our many questions. For this we thank Captain Vince Musache, USN, of the Navy Surgeon General's Staff; Captain Richard Cocrane, USN, Major Elmo Robison, USAF, Major Michael Bouchard, USAF, and Lieutenant Commander Dave Killingsworth, USN, of the Medical Readiness Division in the Joint Staff J-4; and Colonel Herbert Coley, USA (retired).

We are grateful to the many individuals in the TRICARE Northwest Region who gave freely of their time and deserve our thanks for the information and discussions they provided. We are particularly indebted to Colonel Terry Carter, USA, the acting lead agent of the region at the time, and Colonel George Cargill, USAF, the regional director, for hosting our visit and arranging for discussions with region and MTF managers.

We also thank the representatives of Kaiser Permanente, Sutter Health, Tenet Healthcare Corporation, and UnitedHealthcare who shared with us their valuable insights about civilian health-care organizations. RAND colleagues Ross Anthony, Barbara Wynn, Lauren

Sager, Catherine Jackson, and Robin Meilli participated in these visits, which also provided information for a related RAND project on managed-care budgeting methods.

Lauren Sager also provided invaluable support by identifying and screening many of the articles and books that we drew on in the report. We are indebted to Roger Brown and Harry Thie for assistance on various aspects of joint organizations. Leslie Lewis deserves a special thank-you for sharing her work and insight on the Unified Command Plan, which contributed substantially to the descriptions of military organizations in this report. This report also incorporates numerous valuable suggestions made by its RAND reviewers—David Chu, Jack Zwanziger, and Leslie Lewis. However, the content, conclusions, and any errors are the sole responsibility of the authors.

ACRONYMS

ASD/HA	Assistant Secretary of Defense for Health Affairs
BUMED	Bureau of Medicine and Surgery
CBO	Congressional Budget Office
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
CINC	Commander in Chief
CONUS	Continental United States
DHP	Defense Health Program
DMOC	Defense Medical Oversight Committee
DMRTEC	Defense Medical Readiness Training & Education Council
DMRTI	Defense Medical Readiness Training Institute
DoD	Department of Defense
FY	Fiscal Year
GAO	General Accounting Office
GME	Graduate Medical Education

HEDIS	Health Plan Employer Data and Information Set
HMO	Health Maintenance Organization
JCS	Joint Chiefs of Staff
JTF	Joint Task Force
MAJCOM	Major Command
MHS	Military Health System
MTF	Military Treatment Facility
OSD	Office of the Secretary of Defense
PA&E	Program Analysis and Evaluation
PPO	Preferred Provider Organization
SOCOM	Special Operations Command
SRA	Systems Research and Applications Corporation
TMA	TRICARE Management Activity
USAF	U.S. Air Force
USD/P&R	Under Secretary of Defense for Personnel and Readiness
USN	U.S. Navy
USUHS	Uniformed Services University of the Health Sciences
VISN	Veterans Integrated Service Network

INTRODUCTION AND BACKGROUND

The National Defense Authorization Act for Fiscal Year 2000 requested that the Secretary of Defense submit a study identifying areas with respect to the Defense Health Program¹ for which joint operations might be increased, including organization, training, patient care, hospital management, and budgeting. The study team was asked to discuss the merits and feasibility of establishing the following:

1. A joint command
2. A joint training curriculum
3. A unified chain of command and budgeting authority.

This report, which fulfills the congressional request, is the latest in a long series of studies on this topic. Our objective is to develop organizational alternatives that appear to have some merit and outline the trade-offs inherent in choosing among the alternatives. We considered the experience of civilian health-care organizations in developing and assessing alternatives, but we also considered the unique missions and operations of the military system.

The remainder of this introductory chapter provides a brief overview of the current military health system (MHS). Chapter Two describes

¹The term *Defense Health Program* refers to the program element in the DoD program and budget that includes the operations and maintenance funds for medical activities. Not all medical activities are included in this program element and some resources for the included activities are in other program elements. To avoid confusion, we refer to the collection of all DoD medical activities as the “military health system.”

the organizational alternatives we identified. The organization of managed health care, drawing on experience in the civilian sector, is the subject of Chapter Three and the military-unique aspects of the MHS are discussed in Chapter Four. Chapter Five describes the insights we gained from the numerous past studies that address MHS organizational structure and our interviews with military health, Department of Defense (DoD), and congressional experts. Finally, in Chapter Six, we describe the issues that arise in choosing among organizational alternatives and recommend a general course of action.

OVERVIEW OF THE MILITARY HEALTH SYSTEM

The Department of Defense operates one of the largest and most complex health-care organizations in the nation. Including their overseas facilities, the Army, Navy, and Air Force operated about 465 military treatment facilities (MTFs) in 1999, including 91 hospitals and 374 clinics (U.S. General Accounting Office, 1999b).

The beneficiary population consists of approximately eight million active duty personnel, retirees, survivors, and their dependents. Their care is provided through a program called *TRICARE*, which offers both managed-care and fee-for-service options. TRICARE managed-care providers include the MTFs and a network of civilian providers administered through regional contracts with civilian managed-care organizations. The fee-for-service option also covers care provided by civilian providers who have not joined the network.

THE SYSTEM'S DUAL MISSIONS

On the surface, the military health system resembles a fairly typical U.S. managed-care organization. However, as a *military* health system, it has unique responsibilities arising from dual missions:

- 1. The Readiness Mission:** To provide, and to maintain readiness to provide, medical services and support to the armed forces during military operations.
- 2. The Benefits Mission:** To provide medical services and support to members of the armed forces, their dependents, and others entitled to DoD medical care (Deputy Secretary of Defense, 1991).

The uniquely military readiness mission involves deploying medical personnel and equipment as needed to support military forces throughout the world in wartime, peacekeeping and humanitarian operations, and military training. Activities that ensure the readiness of medical and other military personnel to deploy also contribute to the medical readiness mission. The benefits mission provides an employer health benefit (TRICARE) to military personnel and their family members, during active service and after retirement. MTFs supply about two-thirds of the health care used by TRICARE beneficiaries overall and almost all of the health care used by active-duty personnel. Civilian providers supply the rest of the care.

The two missions are linked in two ways. First, the health care provided under TRICARE also contributes to readiness; it keeps active-duty personnel at the peak health needed for military effectiveness and ensures their families are taken care of while they are away from home. Second, the same medical personnel are used for both missions. Active-duty physicians, nurses, and other health personnel staff the MTFs, where most of the health care for beneficiaries is provided. As needed, active-duty health personnel leave the MTFs to fill out the personnel assigned to deploying medical units. MTFs may also employ civilian medical professionals, who do not deploy, and deploying units often also employ reserve personnel, who spend little time in the MTFs.

So long as a large standing medical force is required for readiness, the active-duty personnel will need to be employed in regular patient care to sustain their skills. Making productive use of these personnel in TRICARE also keeps the costs of the DoD's employer health benefit reasonable. Although the two missions complement one another, joint production of readiness and benefits involves a complicated set of trade-offs and management challenges.

**OPTIONS FOR ORGANIZING THE MILITARY
HEALTH SYSTEM**

The FY 2000 Defense Authorization Act requested that this report address the merits of making the MHS more unified and that it specifically consider reorganization to create a joint command or unify certain activities.¹ In this chapter, we describe options for organizing the system. The first option is the current structure. We then propose four options with alternative organizational structures: one that modifies the current structure to better unify the chain of command and budgeting for TRICARE and three options for structuring a joint command. In developing these four new options, we incorporated some principals drawn from the literature on organizational design and implemented in civilian managed-care organizations, as described in Chapter Three.

OPTION 1: CURRENT ORGANIZATIONAL STRUCTURE

Earlier in this report, we described the MHS's two missions: military readiness and the benefits mission. The MHS system includes organizations tailored to each of these missions: deployable medical units for the readiness mission and the MTFs and managed-care support contracts for the benefits mission. As we discuss further in Chapter Four, the MTFs also play an important role in readiness.

¹We considered the chain of command, financial management, and personnel management in analyzing organizational structure. A brief discussion on the more-specific topic of the training curriculum is in Appendix A.

The MHS organizational structure differs in some respects by service. The Army, Navy, and Air Force operate separate medical departments, established in accordance with Title 10 of the U.S. Code. The Navy Medical Department supports both the Navy and Marine Corps. The Army and Navy each have a medical command, headed by a Surgeon General, who manages the MTFs and other activities through a regional command structure. Deployable medical units are integrated with the Army, Navy, and Marine Corps organizations they support.

The Air Force imbeds both its MTFs and deployable units in its basic structure; the chain of command is from the MTF to the local line (for example, a wing) command to the major command to the Chief of Staff. At each level in this structure, there is a medical staff officer who advises on medical matters and, in reality, has considerable management authority. The Air Force Surgeon General, through his position as medical advisor to the Chief of Staff, exercises essentially the same authority as the other Surgeons General do.

Overseeing the DoD's medical mission is the Assistant Secretary of Defense for Health Affairs (ASD/HA). DoD Directive 5136.1 assigns considerable authority to the ASD/HA as the program manager for all medical resources, including

- establishing policies, procedures, and standards for DoD medical programs
- preparing a unified medical program and budget with funding for all accounts except military personnel
- presenting and justifying the medical program and budget in the DoD Planning, Programming, and Budgeting System and to the Congress
- co-chairing the committee that facilitates consideration of DoD biomedical research.

The ASD/HA reports to the Under Secretary of Defense for Personnel and Readiness (USD/P&R). The ASD/HA is the reporting authority for a number of DoD medical agencies, including the TRICARE Management Activity (TMA). TMA was established as a DoD field activity in 1998 to oversee the revamped military health benefits plan, TRICARE. Its responsibilities include TRICARE administration,

preparation and execution of the unified Defense Health Program appropriation, contracting for managed-care support services, and support to the services' delivery of TRICARE services.

Finally, the Defense Medical Oversight Committee (DMOC) was established in 1999. Its membership consists of the three service Under Secretaries; the Vice Chiefs of the Army, Navy, and Air Force; the Vice Commandant of the Marine Corps; the DoD Comptroller; the ASD/HA; and the USD/P&R. The Surgeons General are ex officio members. The DMOC's role has not yet been made explicit in a formal charter, and its activities have been varied.

MHS Organization for TRICARE

The organizational structure that implements TRICARE is shown in Figure 2.1. There are four hierarchies in this structure: the Office of the Secretary of Defense (OSD) and the three military services with medical departments. Each oversees a set of providers that deliver health care to TRICARE beneficiaries (represented by the darker-shaded boxes in Figure 2.1). Health plan responsibility for TRICARE resides in the OSD's Health Affairs office (represented by the lighter-shaded boxes). Not shown in the chart is DMOC, which as noted earlier consists of senior leadership from the OSD and the services.

MHS Organization for Readiness

Figures 2.2 through 2.4 display basic organization charts for each of the three military medical departments. The Surgeons General of the Army and Navy each lead a regionally organized medical command to manage MTFs and oversee medical activities, but they do not exercise direct authority over all aspects of medical readiness. Although these commands can control the readiness activities in the MTFs (such as individual skills training), many military-specific readiness activities, such as materiel maintenance and unit training, occur in deployable medical units. Furthermore, these units are often under the control of non-medical commanders. In these cases, there is no direct medical chain of command above the deployable medical unit, and the medical unit leader is evaluated by a line or support commander; however, the Surgeons General provide medical policy guidance through their respective service chiefs.

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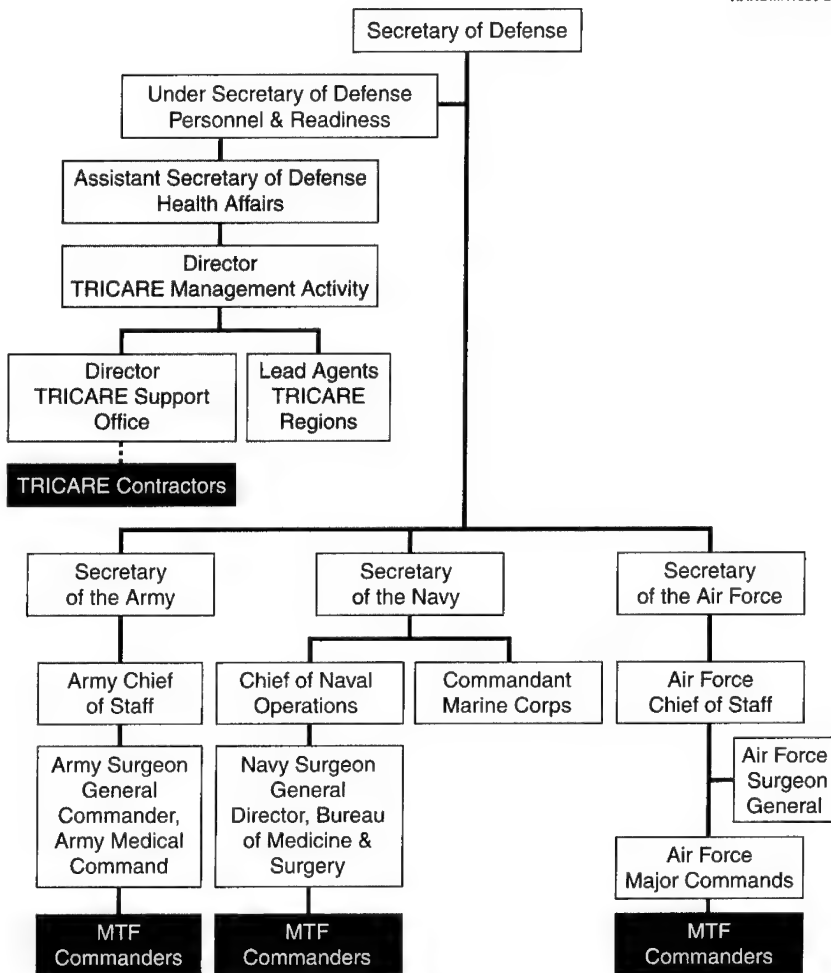


Figure 2.1—TRICARE Organization

The Air Force employs the most integrated medical system with regard to line command and control. As in the other services, the Air Force Surgeon General provides medical advice to the Chief of Staff of the Air Force and generally oversees all Air Force medical activities.

The Army's medical organization is less integrated with the line command structure than the other services. Army medical centers are organized under regional medical commands, which provide both command and control and resources. Smaller Army MTFs receive resources from the regional medical commands, but their commanders are often evaluated by responsible line commanders. Like the Navy, deployable Army medical units and "organic," or highly integral, medical components are controlled by the service component commands, for example the Army's Forces Command in CONUS, as shown in Figure 2.2.

Although these units are staffed in peacetime with some medical personnel to provide basic care to service members and to be maintained and trained as a deployable medical unit, active duty medical professionals (such as physicians or nurses) fill out these units for combat training and deployment, but are assigned to MTFs where they can maintain their medical skills. When these personnel deploy, they can be backfilled with reserve personnel.

Due to a restructuring a decade ago, the Navy's medical organization is less integrated with the line command structure than the Air Force,

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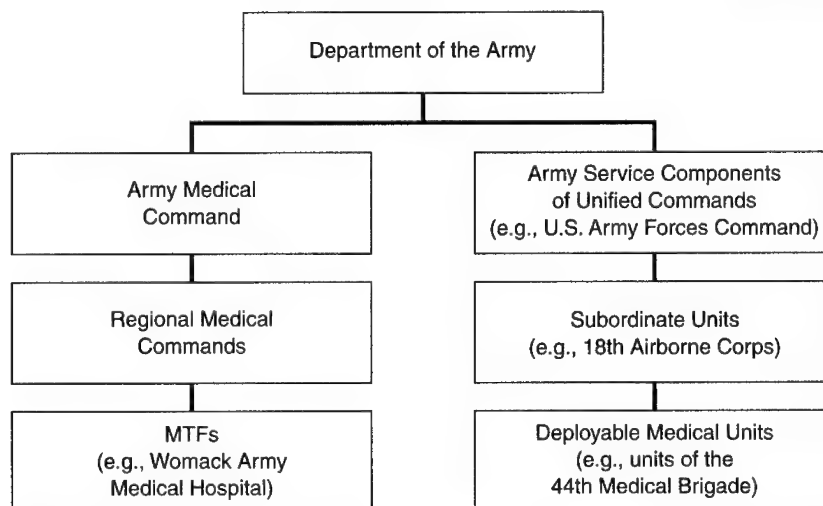


Figure 2.2—Army Medical Organization

but more so than the Army's medical organization. The Navy Surgeon General is the Director of Naval Medicine and commands the Bureau of Medicine and Surgery (BUMED). BUMED provides policy and technical support for health-care delivery to deployed units and in shore-based MTFs. The Navy provides medical support elements for the Marine Corps. Navy MTFs receive policy and resources from BUMED, and military command and control from the Navy or Marine Corps line commanders.

The Navy medical structure directly links MTFs and deployable medical units. For example, the six mid-size naval hospitals with family-practice residency programs each staff a fleet hospital, which requires nearly all of the staff from the naval hospital. Sub-specialists not available at these "community" hospitals are assigned to the fleet hospitals from one of the three naval medical centers. Two of the naval medical centers, Bethesda and San Diego, are assigned to staff

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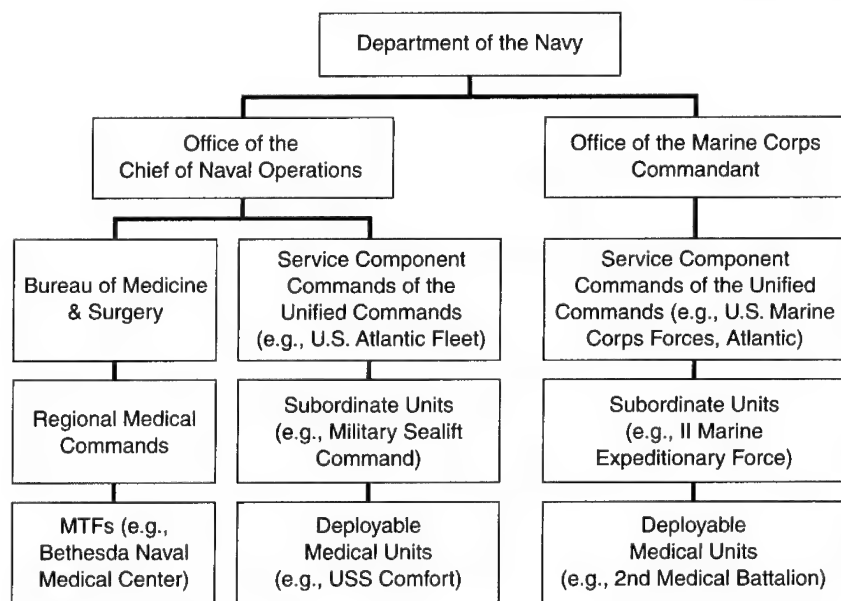


Figure 2.3—Navy Medical Organization

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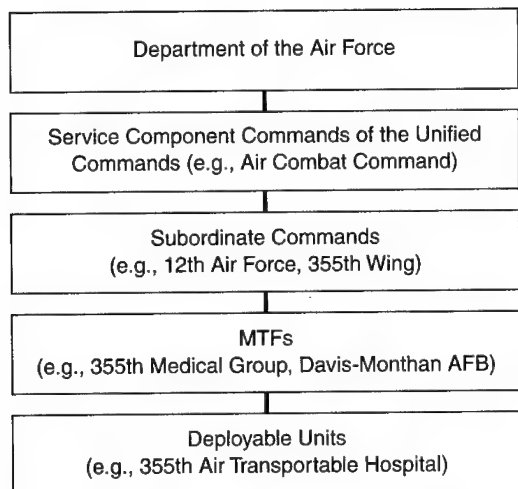


Figure 2.4—Air Force Medical Organization

the two hospital ships. Annually, personnel assigned to all these naval hospitals train together for two weeks at their fleet hospitals or hospital ships. Reserve personnel backfill the MTFs during this period. In contrast to the Air Force and Army, which are primarily MTF-based when providing peacetime care, naval medical units consistently provide support to deployed Navy and Marine Corps units on a rotational basis.

In the Air Force, peacetime and operational medical units are integrated under local command and control at each wing command, with the MTF commander reporting to the wing commander. Each major Air Force command (MAJCOM) employs a command surgeon who provides advice to the MAJCOM commander and exercises considerable management authority, but ultimately Air Force MTFs are commanded and controlled by the line command at the installation they serve.

Doctrinally, deployable medical units in the Air Force are staffed directly from the MTF of the supported line commander. In practice, the Air Force employs a “building block” approach for providing medical support to deploying units, whereby deploying medical

units are often constructed from various MTFs. Augmentation of these units with medical specialists needed for particular missions is usually accomplished from the larger MTFs.

When deployed, medical units are part of the service component commands of each geographic combatant command.² The Commander in Chief (CINC) of each geographic command is responsible for coordinating and integrating support provided by the services' medical units within his theater of responsibility (U.S. Department of Defense, 1995). This is accomplished through coordination between the medical units assigned to the geographic command and the command surgeon, who is a staff officer to the CINC. This structure is illustrated in Figure 2.5.

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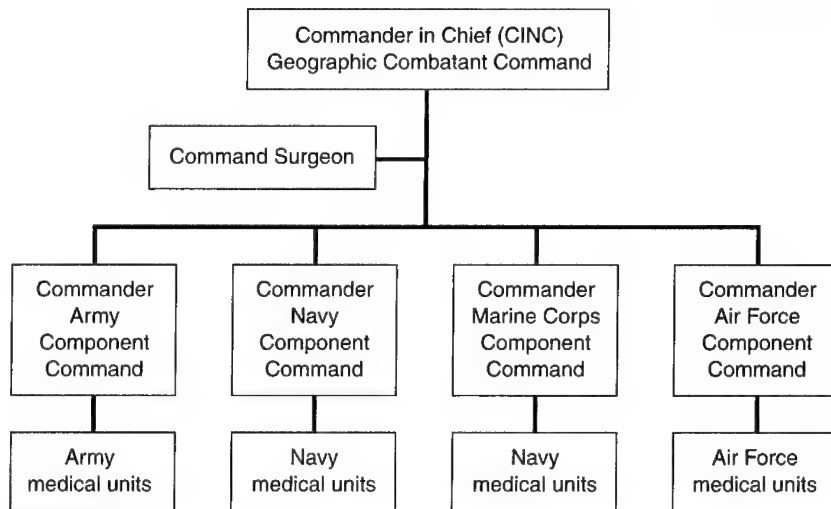


Figure 2.5—Organization of Deployed Medical Units

²Portions of the U.S. Coast Guard may also mobilize in support of large-scale operations. In these instances, their medical support is largely provided by the DoD Services, primarily the Navy.

MHS Resource Management

The flow of resources for both readiness and TRICARE is shown in Figure 2.6. Military-personnel authorizations and funding are included in the overall personnel accounts for each service. The services therefore have some discretion in allocating personnel resources to medical versus other activities, although the Congress has constrained the services' allocations at times.

Other operating funds for medical activities are provided in a single appropriation (the Defense Health Program, or DHP), which is included in the budget for the Office of the Secretary of Defense. The DHP pays for civilian personnel, equipment that is not included in the capital account, supplies, maintenance, information systems, and contract services. TMA is responsible for developing the budget each year and it allocates a share of the annual appropriation to each service and a share for "corporate" functions such as the TRICARE support contracts and information systems.

OPTIONS 2-5: ALTERNATIVE ORGANIZATIONAL STRUCTURES

Over the past decade or more, the MHS has reshaped military health-care delivery through TRICARE. The goal at first was to contain costs but has expanded to include population health and patient satisfaction. Achieving these goals requires a cost-effective allocation of health resources, efficient use of those resources within each component of the system, and integration across the components to ensure the best outcomes for patients. Allocating resources and integrating care can be difficult in a health system without integrated management and an integrated flow of resources.

In Chapter Three, we describe how civilian health-care organizations are structured to facilitate cost-effective health-care delivery. We have borrowed from their experience in identifying options for reorganizing the MHS.

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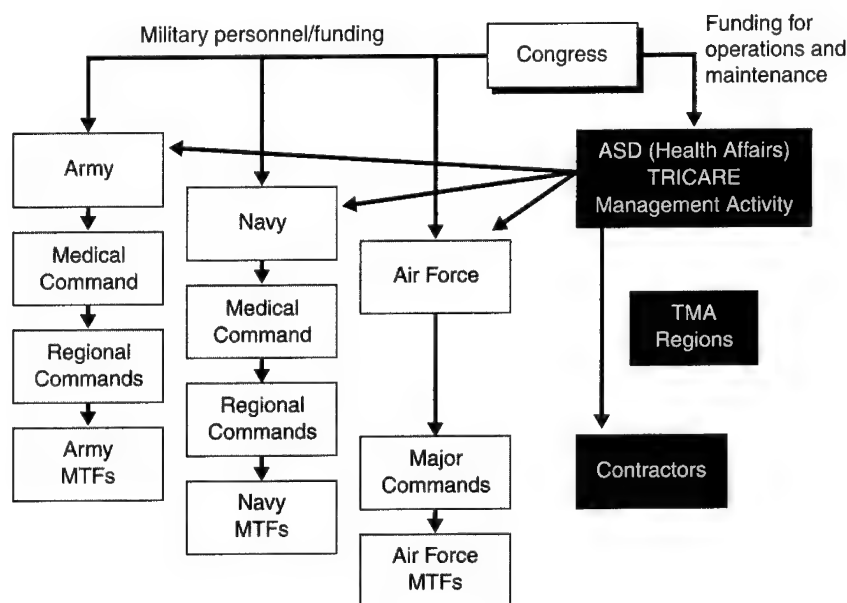


Figure 2.6—Flow of TRICARE Resources

Option 2: Modification of the Current Structure

The first of the four new options would retain much of the current organizational structure, but it would call for several changes designed to clarify management responsibilities for TRICARE and facilitate resource management and integration of health services. TMA would assume the responsibilities of administering a health plan, many of which it already handles—determining the annual budget, contracting for services from the private sector, and allocating the budget to the MTFs and the contractors that provide the care.

TMA would remain under the authority of the ASD/HA and it would keep its current regional structure. However, within each region would be local market managers, each responsible for one or more defined geographic areas. The areas would include the current MTF catchment areas, other areas with sizeable beneficiary populations,

and broader regions where beneficiaries are more dispersed. Wherever possible, these areas would be designed to co-exist with civilian health-care markets to facilitate management of civilian contract care. Areas with sizeable military populations might occupy a full-time TMA manager, but smaller areas would require only a part-time manager.³

Figure 2.7 illustrates the flow of funding within a modified organizational structure. The funding would be allocated to each area based on its eligible population (with appropriate health risk adjustments) and would reflect the total resources needed to care for the population in the MTFs and civilian sector. This means moving MTF military personnel funding from the service accounts to the DHP account. The TRICARE area managers would work with MTF commanders, the contractors, and local civilian providers to develop cost-effective programs. They would finance care provided by the MTFs and civilian providers. In the case of the MTFs, they would provide a budget based on an annual plan for providing care, MTF staffing, and utilization targets.

Civilian providers would be reimbursed on a fee-for-service or other basis through the contractors, as they are now. TRICARE managers would be accountable for overall TRICARE performance in their areas and MTF commanders would be accountable for performance in delivering care within their facilities.⁴

The services would remain fully responsible for recruiting, training, and managing medical personnel except where joint programs exist today or are determined to be more cost-effective in the future. However, the funding for military personnel would be provided through the TRICARE management structure to the MTFs, along with other operating funds. This would allow for greater visibility in resource use and accountability for financial outcomes, in addition to accountability for quality and service outcomes.

³These manager positions would replace some positions at the services' intermediate commands, whose resource management responsibilities would largely devolve to the TMA regions.

⁴In addition, the MTF commanders would continue to be responsible to their line commander(s) for such matters as the health of active-duty personnel, support of training and other military activities, and health care provided or managed by MTF personnel.

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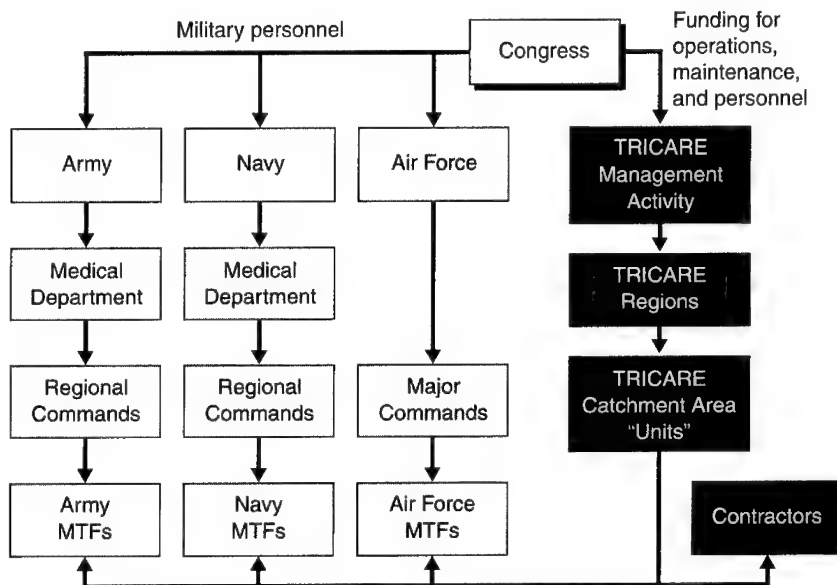


Figure 2.7—Flow of Funding in a Modified MHS Structure

As described earlier, the local TRICARE manager and MTF commander would negotiate an annual plan with targets for MTF Prime enrollment and MTF utilization by other beneficiaries. The plan can be adjusted as the year unfolds in response to unexpected changes in MTF staffing. If the MTF cannot meet its targets, it would receive less funding from the TRICARE manager. This could occur if military personnel are deployed; funding for deployed personnel would come from a medical readiness account, not from the TRICARE account. Developing workable financial mechanisms would be difficult, particularly with current data systems. Nevertheless, over the long run, strengthening the financial management in TRICARE should pay off in a more cost-effective program.

Under this scheme, the TRICARE manager has no command-and-control authority over the MTF commander. As purchaser for TRICARE services, the TRICARE manager should influence the MTF commander's decisions. TRICARE performance is monitored at each

TRICARE management level and MTF performance is monitored by the responsible service. Similarly, the relevant line commander or service medical commander evaluates the MTF commander. In both cases, it is essential that these evaluations be based on objective and balanced measures of the relevant outcomes.

Options 3–5: Joint Command Structures

A joint medical command would be a unified combatant command, as defined by Title 10, because it would have broad, continuing missions and be composed of forces from two or more military departments. Title 10 establishes the legal authority for unified combatant commands in general and a somewhat different legal authority for the Special Operations Command (SOCOM).

The SOCOM commander has an expanded set of responsibilities and authorities for special operations activities, whether or not they are carried out within the command. These include programming and budgeting, budget execution, acquisition of specialized assets, training, requirements determination and validation, and monitoring of the services' personnel management activities. Most, if not all, of these authorities and responsibilities were consolidated and assigned to the ASD/HA over the years. Therefore, we assume that a joint medical commander would be assigned the same responsibilities and authorities that are assigned to the SOCOM commander. In keeping with current practice, all DHP funding would go to the joint command instead of the services. This approach would also be most consistent with the objective of consolidating health-plan authority for TRICARE.

Numerous options exist for structuring a joint medical command. Here, we consider three options that illustrate important differences in organizational structure. The first organizes all medical activities in service component commands. The second option is similar to the first, but separates responsibility for health-plan management in a TRICARE component. The third option involves a more radical change in MHS organization. It organizes medical activities functionally under readiness and TRICARE components. Readiness activities are organized by service, but TRICARE activities are organized geographically. Under each option, the Surgeons General would con-

tinue their responsibilities for medical policy in their respective services. Their other responsibilities would differ, however.

The three options have some common elements. They would own the same medical units, have the same type of commander, and leave Title 10 responsibility for organizing, manning, and equipping medical units to the services. All options would assign deployable medical units to the joint command, although they could remain within their current line commands. We chose to assign them to the medical command to promote coordination between medical readiness and TRICARE management and encourage a unified approach to the readiness mission. This does not mean that all medical functions would move under the medical command. As we describe in Chapter Four, some of these functions are highly organic to non-medical units (for example, ships). Before a joint command could be established, the appropriate assignment of units and personnel would have to be determined.

We assume that a joint command of this size would be commanded by a four-star flag officer. Thus, the medical commander would outrank the Surgeons General, regardless of the role that they fill.

Following the SOCOM model, the joint medical commander would have responsibility for monitoring the services' management of medical personnel. Although the command could request that military personnel be assigned outside their services, the need to maintain service expertise and ensure good medical-line relationships would generally make this undesirable.⁵

Joint Command with Service Components. A joint command with service component commands is sketched in Figure 2.8. This is the standard organizational structure for unified combatant commands, employed even in SOCOM. In many respects, it carries forward the current organizational structure but assigns overall responsibility and authority to a single military commander. The Surgeons General are the most obvious candidates to command the component commands, but these positions could be filled by other flag officers if the

⁵Assignment to another service occurs in the current structure, although it is not a common practice. MTFs located in the same area also lend personnel on an informal basis.

services prefer to keep the component-command job separate from that of chief policy advisor within the service.

The joint medical staff would assume many of the responsibilities now assigned to the TMA, including contracting support. However, consistent with organization along service lines, the services would assume technical oversight of the activities performed by the managed-care support contractors in their catchment areas. This responsibility would be decentralized and thus assigned along with other aspects of health-care management to the MTF commander. Technical oversight for contractor activities outside the catchment areas would be handled either by the joint medical staff or assigned to the services as lead agents for different regions.

In Figure 2.8, we show the Air Force deployable units reporting to the Air Force MTFs and the Army and Navy deployable units reporting through separate chains of command. This maintains elements of the current service structures, but it involves a major change in Air Force command and control. MTFs and their deployable units (when

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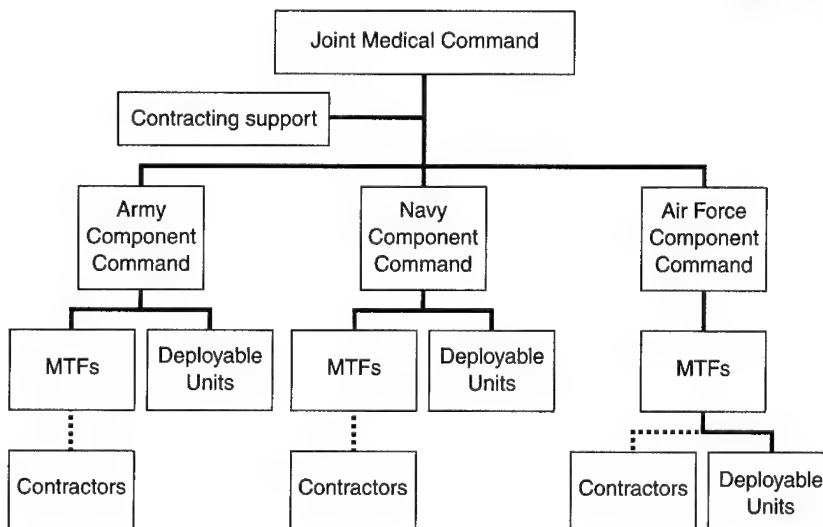


Figure 2.8—Joint Command with Service Components

they are not deployed) would no longer report to the Air Force line command they support. There is less change for the Army and Navy; the service component command is similar to the medical commands they have now. In all the services, the commander's performance evaluation could be prepared by the senior line commander, as is done now. If so, it will be important to ensure that the rating commander takes account of performance in both readiness activities and TRICARE management.

Joint Command with Service and TRICARE Components. This option, illustrated in Figure 2.9, is similar to the option just described except that it assigns responsibility for managing TRICARE to a separate component within the command. Essentially, it is the joint-command version of today's organizational structure, modified as we described earlier in the first alternative structure. However, the operational authorities now held by the ASD/HA would be held instead by the joint commander and TMA's functions would move to the TRICARE component command.

Joint Command with Readiness and TRICARE Components. As we indicated earlier in this chapter, this third option envisions the most

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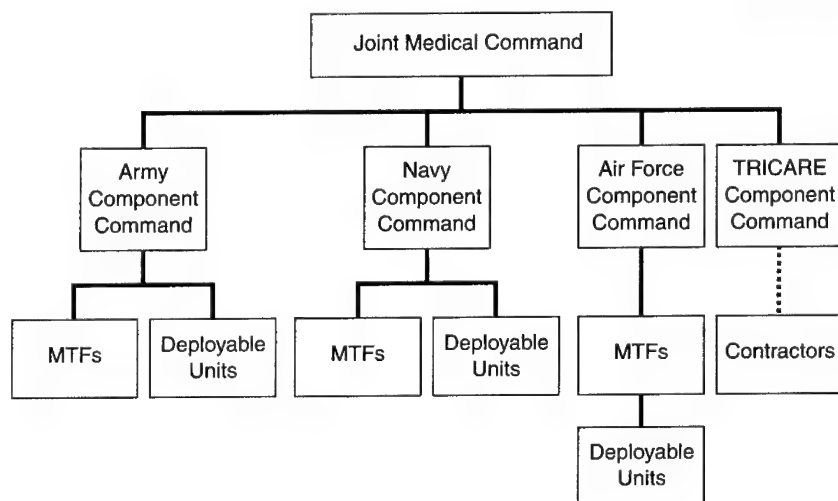


Figure 2.9—Joint Command with Service and TRICARE Components

radical reorganization of the MHS. It would create a separate chain of command for much of the readiness mission under the joint commander's overall authority (see Figure 2.10). All deployable units (other than those that remain organic to line commands) would report through service component commands to a deputy commander for readiness. The TRICARE component command would be structured according to a civilian-like model, with regional commands overseeing health care delivered by the MTFs and civilian providers in their assigned geographic areas.

Within the regional commands would be health-plan market managers with appropriate responsibility for overall TRICARE performance. Each market area would be assigned to a single manager, but one manager might handle more than one area.

Responsibility for health matters at an installation and for the health of all assigned military personnel would continue to be the responsibility of the MTF commander. The responsible line commander would rate the MTF commander's performance in these areas. The regional TRICARE commander would evaluate the MTF's TRICARE performance, with input from commanders at the installation.

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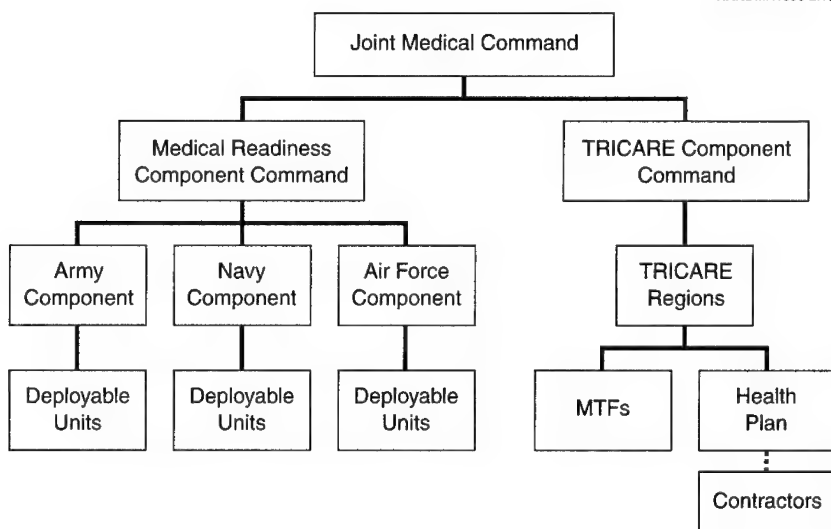


Figure 2.10—Joint Command with Readiness and TRICARE Components

In this joint-command alternative, the Surgeons General would most likely oversee medical readiness in their services, but they would no longer have authority over the MTFs. In their capacity as chief medical officer for their respective service, they would monitor the performance of the MTFs in maintaining the health of active-duty personnel, providing care to families, and supporting readiness training and deployment.

The resources needed for readiness activities would be identified and allocated to the readiness component. This would include personnel assigned to deployable units and preferably an allotment for personnel assigned to MTFs but available to the deployable units when needed. The TRICARE component would receive all TRICARE resources, including personnel assigned to the MTFs.

When personnel leave to man deployable units for training or operations, the readiness component would reimburse the TRICARE component from its allotment.⁶ Establishing these internal resource transfers would be a challenge, but if it can be done properly, TRICARE managers would quickly receive the funding they would need to refer patients to the civilian sector when the MTF loses staff.

Level of Consolidation of Operational Medicine

Medical care for deployed personnel may be provided by medical specialists who are either assigned to operational units or to medical units that are attached to operational units. Alternatively, patients may be evacuated to medical units that operate more independently of the operational forces. Examples of the former are medics in Army and Marine combat units, battalion aid stations, flight surgeons who remain with squadrons in the Air Force, or medical personnel assigned the Navy ships. Examples of the latter are field or fleet hospitals and the Navy's hospital ships.

If a joint medical command were created, it would include stand-alone operational medical units and exclude personnel assigned to operational units. More generally, medical activities determined to

⁶Or, the reimbursement would be in-kind in the form of reserve personnel.

be organic to the supported operational unit would most likely remain outside the medical command.

Joint Command Versus Defense Health Agency

An alternative to a joint command is a defense agency for health-care activities. This alternative embodies two options.

One option is to include all of the MHS in the agency. This option would result in both the peacetime and readiness medical structure reporting to the department's civilian leadership, and such an organization would be a significant departure from the current service-oriented posture for readiness.

The second option is a variation of the third joint command option presented earlier, in which the readiness and peacetime missions are housed in separate component commands. Were this joint command option extended to include a defense agency, the medical readiness mission would continue to fall under the purview of the services (possibly via a joint readiness command), and the peacetime mission would be managed by the defense agency. Because of the necessarily close association of medical support units and operational units, it is likely that such an agency would be designated a combat support agency. Such designation would require oversight by the Chairman of the Joint Chiefs of Staff with regard to the plans of the agency for its support of operating forces and related training (U.S. Code 10 §193).

Because medical personnel must be shared between the readiness and peacetime missions in order to maintain their medical and operational skills, the amount of coordination that would be required between a defense health agency and readiness activities would be considerable. For this reason, if a defense health agency is established, it is likely that a joint readiness command would be advantageous to facilitate this coordination through singular leadership of both missions.

**ORGANIZATION IN THE PRIVATE SECTOR
AND TRICARE**

TRICARE is modeled on civilian managed-care organizations. It includes two enrollment options. The first option, TRICARE Prime, is a health maintenance organization (HMO). Beneficiaries who do not enroll in Prime are covered by a preferred provider organization (PPO). This option offers MTF care when it is available and two civilian alternatives: TRICARE Extra, for those who elect to use the civilian provider network, and TRICARE Standard, for those who use non-network providers. This menu of health-plan choices closely resembles that of civilian managed-care plans.

As in any managed-care organization, TRICARE's cost-effectiveness depends on its provider network and utilization management program and on its ability to attract beneficiaries to its more highly managed options, especially Prime. Network provider selection, contracting, managed-care operations, and marketing are important elements of a successful plan.¹

Making optimal use of MTF capacity is critical, as it is in any managed-care organization with its own providers. The DoD operates TRICARE with the assistance of managed-care support contractors, who supply a wide variety of services, such as establishing the civilian network, managing and paying claims for the care delivered in

¹Civilian managed-care strategies may be changing in response to a growing public reaction to utilization management (Dowling, 1995; Ginsburg, 2000). More-subtle strategies to shape a cost-effective system of care may be replacing administrative reviews, for example, that patients view as blocking their access to care..

the network, enrolling beneficiaries in the HMO, and providing marketing, beneficiary, and appointment services.

A separate contract is awarded in each of the 12 TRICARE regions in the U.S. The TRICARE Management Activity procures these managed-care support contracts. Contracting out of some managed-care operations is also widespread among civilian managed-care organizations, although the DoD contracts are somewhat unusual.

Because TRICARE is in many respects a typical managed-care program, it seems reasonable to look to other managed-care programs for guidance on organizational design. In the remainder of this chapter, we draw on the experiences of civilian managed-care organizations for lessons that can be applied to the MHS.

As the health-care industry has grown and responded to high cost increases by adopting managed care, organizational scholars have attempted to discover what organizational structure is most effective in delivering health care. And, as the industry continues to evolve, so does the organizational literature.

Our review of organizational structure outside the MHS sought to identify structures that are consistent with organizational theory, the conclusions of recent studies of health-care organizations, and the current practice of leading health-care companies. Here, we focus on the specific approaches used to structure managed-care organizations. These approaches were highly consistent with the theoretical literature, which is briefly discussed in Appendix B.

ORGANIZATION OF MANAGED HEALTH CARE

Although the literature often refers to managed-care organizations as a single group, there are in fact many differences among them. One key difference is that between health-care providers (hospitals, physicians, and others) and health plans (health insurers, health maintenance organizations). Health plans are the financial intermediaries who design benefit packages, enroll individuals (usually employees and dependents), and pay their health-care bills. Managed-care plans also establish provider networks and actively promote cost-effective health care in various ways. The purchasers of the

health plans are employers whose compensation packages includes health benefits and the individuals covered by these benefits.

The relationships between employers (and other purchasers), providers, and health plans are varied. For example, large employers may pay health plans to accept the financial risk for their employees' health care or they may assume the risk themselves and only buy administrative services from the health plans. Health plans and providers may be jointly owned or linked by contract, and each may assume different levels of financial risk. Clearly, the organizational structure for a managed-care organization will depend on the extent of its responsibilities and the nature of its relationships with providers.

Over the past 20 years, the growth of managed care has altered the organization of health plans and providers. Unlike traditional health plans, managed health-care organizations are designed to promote cost-effectiveness through the design of provider networks, benefits packages, and active management of high-cost cases (Cave, 1995; Dowling, 1995; Gillies et al., 1997). Their goal is what some researchers call an *organized delivery system*, defined as

A network of organizations that provides or arranges to provide a coordinated continuum of services to a defined population and is willing to be held clinically and fiscally accountable for the outcomes and the health status of the population served (Shortell et al., 1996).²

The key to success of organized delivery systems is the coordination of the health care provided to the same individual by different providers over time (Dowling, 1995). Not surprisingly, research on managed-care organizations has attempted to identify the organizational approach that most effectively promotes effective coordination and, consequently, succeeds in the marketplace. Most authors are quick to point out that the industry is undergoing rapid restructuring and that no dominant organizational model has emerged

²This type of network is also called an *integrated* delivery system, although this term is sometimes used to refer to single ownership of many different types of provider groups.

(Dowling, 1995; Robinson and Casalino, 1996; Robinson, 1996; Bazzoli et al., 1999; Lesser and Ginsburg, 2000).

To help identify what some of the key features of an effective model are likely to be, we augmented our review of the literature with information gained from visits to three civilian managed-care organizations and a telephone interview with a fourth organization. We chose large managed-care organizations that operate in more than a single market area and have an overall record of success. The four companies are described in Table 3.1. We also reviewed annual reports and other information provided on the Web sites of other large managed-care organizations. We found that both the information on the Web and the literature consistently supported the conclusions we drew from the four managed-care organizations we studied more intensively.

How Managed-Care Organizations Are Structured

A decade ago, many researchers who study health-care organizations thought that the coordination of health-care services would be most effective in vertically integrated organizations that own facilities and employ providers (Wholey et al., 1992; Shortell et al., 1994). However, in the 1990s, evidence accumulated that vertical integration was no more effective in health care than in other industries (Walston, 1996). Several researchers have noted the trend toward disintegration of vertically integrated managed-care organizations (Robinson, 1997; Ginsburg, 1999). Hospital- or physician-sponsored health plans have not succeeded as well as health plans independent of provider interests. To remain competitive, numerous vertically integrated health plans have sold their provider groups and provider groups have dropped their health plans.

Several reasons have been advanced for the poor performance of vertically integrated managed-care organizations: (1) inherent conflict of interest between providers and health plans (Ginsburg, 1999; Robinson, 1999); (2) inefficiencies typically found in large, complex organizations (Barr, 1995; Cave, 1995); and (3) lower productivity of

Table 3.1
Characteristics of Civilian Managed-Care Organizations
Visited or Interviewed by Telephone

	Kaiser Permanente	Sutter Health System	Tenet Healthcare	UnitedHealth- care
Health plans	Group-model HMO	None	None	Independent practice; HMO; PPO
Providers	Exclusive contracts with Kaiser hospital and physician groups	Owens/leases hospitals and physician groups	Owens hospi- tals, most large; divesting its physician groups	Contract only
Other products	None	Other provider services	Other provider services; insurance	Information, analysis, and administrative services
Size				
Number of hospitals	30	27	110	3,500
Number of providers	11,000 M.D.s	5,000 M.D.s	—	340,000 M.D.s
Number of enrollees	8.1 million	—	—	14.5 million
Revenues	\$16.8 billion	\$2.9 billion	\$11.4 billion	\$19.6 billion
Location	11 states; primarily California	California: Sacramento; Oakland and other commu- nities in East Bay Area	17 states	National (44 markets)

NOTE: Non-financial data are the most recent figures posted on the health plans' Web sites as of early 2001. Financial data are for 1999, except for Tenet, which are for fiscal 2000.

salaried physicians (Ginsburg, 1999). Instead of vertical integration, managed-care organizations seek "virtual integration" through contractual relationships. In most cases, these contracts are nonexclu-

sive, but Kaiser Permanente is an example of an organization with exclusive contracts between the health plan and provider organizations.³

Even virtually integrated health systems require a governance structure that integrates decisions across the continuum of care and aligns governance with clinical practice (Shortell et al., 1994; Shortell et al., 1995; Cave, 1995; Goes and Park, 1997). This implies involving physicians in decision-making (Wholey et al., 1992; Shortell et al., 1995; Morrissey, 1999).

Whether they are health plans or provider groups, large managed-care organizations almost always structure themselves geographically and decentralize their management (Hurley et al., 1995). Decentralization appears to be more efficient, for two reasons: (1) any economies of scale in management within a centralized organization are apparently offset by the inefficiencies of centrally directing a large, geographically dispersed organization and (2) local knowledge is critical for effective management of health care.⁴ Thus, operating units are established to manage local market areas. These local units report through regional managers to corporate headquarters; at each level, six to eight units report to a single manager.

Local managers are assigned responsibility for most operational decisions affecting their area, including investments up to \$1,000,000 (Walston et al., 1996). They tailor the system of care to the patient needs and the medical resources in their areas. The specific decisionmaking for which they are responsible differs by type of managed-care organization. The responsibilities of health plan managers include selective contracting with local providers, exploiting local capabilities for cost-effectively treating different kinds of pa-

³At first glance, Kaiser appears to be a vertically integrated organization. However, it is actually three legally separate entities—a health plan, physician group, and hospital group—that operate jointly through exclusive contract. Each entity has defined responsibilities, but planning and operations are collaborative. Although Kaiser resembles the MHS in many respects, Kaiser's providers provide a much higher fraction of the care for its enrollees and it has no mission other than managed care.

⁴Given (1996), Christianson et al. (1997), and Wholey et al. (1996) agree that economies of scale disappear in managed-care organizations with enrollments above 50,000. This is consistent with evidence that coordination within these organizations is costly (Barr, 1995; Clement, 1997).

tients, conducting the local marketing effort, and managing both employer and enrollee relations. Provider group managers hire providers and support staff, oversee health-care delivery, and negotiate contracts with health plans. If the contract between the health plan and provider group is exclusive, staffing decisions will be closely coordinated with the plan.

Regional and corporate responsibilities are limited. Regional managers set targets for and monitor the performance of the local units for which they are responsible. They help coordinate the activities of units in adjacent markets.⁵ Regional staffs are usually small, but may include experts in areas such as contracting who are not needed full time at the local level. Corporate managers determine the company's objectives and strategy, set targets for and monitor the performance of regions, determine major investments, develop brand-name marketing, and negotiate contracts that cut across regions. In health plans, corporate responsibilities also include the design of benefit packages, multi-location employer accounts, and underwriting.

The flow of resources in civilian managed-care organizations, shown in Figure 3.1, is consistent with the largely decentralized management structure and is kept simple. Purchasers, typically employers, pay a specified amount (known as a "capitated payment") for each person or family enrolled with the managed-care organization. These payments accrue directly to the local unit if the enrollees all live in the local area.

If an employer has multiple locations or enrollees might plausibly obtain their primary care from one of several local units (such as in metropolitan areas large enough to justify multiple local units), the corporation receives the payments and passes them down through the regions to the units responsible for the enrollees, based on where they live and obtain most of their care. If enrollees use services from a local unit other than the one responsible for them, funds are transferred to pay for the services. Thus, each management entity in the organization can readily identify its enrollees and payments, or revenues (including transfer revenues).

⁵Coordination appears to be productive for market areas no more than 50 miles apart.

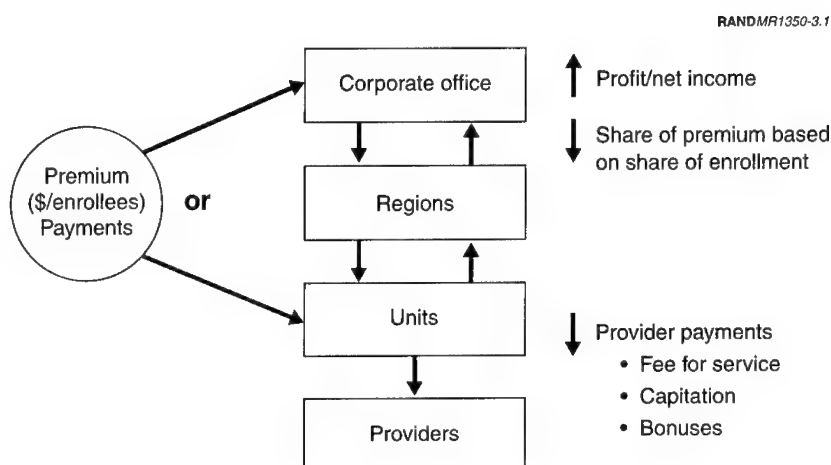


Figure 3.1—Resource Flows in Civilian Managed-Care Organizations

Costs are also incurred locally, largely in the form of payments made to providers (hospitals, physicians, and others). Provider organizations and vertically integrated managed-care organizations often have salaried providers. Fee-for-service payments, in which health-plans pay providers according to a fee schedule for each service provided, are still common.

For a number of years, more health plans were moving to capitated provider payments, which established fixed amounts in advance for each enrolled patient. These fixed payments might cover primary care services only or also include some or all specialty and hospital care. In recent years, enthusiasm for capitated physician payment has dimmed because many physician groups proved unable to successfully manage the financial risk they assumed in accepting capitation (Bernstein, 1999; Ginsburg, 1999) and the public increasingly worried about the incentive capitation gives physicians to limit their patients' access to care. Like many other aspects of managed care, payment mechanisms are still in transition.

Accountability, Performance Evaluation, and Incentives

The organizational structure described in the previous section creates a single authority for the covered population in each locality. If the organization is vertically integrated and operates both the health plan and the delivery system, a manager will have authority over a single locality (for instance, a city). If the organization is a health plan only, a manager may oversee multiple localities (such as those in an entire state). In either case, the person in charge of each locality is readily identified. The same principle holds at higher management levels.

To promote efficiency, decentralized assignment of responsibility is accompanied by strong accountability for outcomes that are clearly specified in advance and evaluated afterward (Hanchak, 1996; Hurley, 1995). In the managed-care organizations we visited, accountability is achieved through a standard annual business planning process. Performance is assessed using a limited number of key outcomes. Overall business success is measured by profit (or net revenue for non-profit organizations). Because revenues and costs are measured at the local level and can be easily aggregated to regional and corporate levels, assessing profitability is straightforward at all management levels. Profitability is measured for each type of business—typically, the types are large/national employers, small/local employers and individuals, Medicare, and Medicaid.

Beyond the financial bottom line, intermediate outcomes include the key factors in profitability (such as enrollment or pharmaceutical costs) and quality measures including patient satisfaction. Global measures of quality of care are not yet available and so do not appear to be as visible in the business planning process. Indicators of quality for specific types of care are used in quality improvement (discussed in the next section) and individuals at one organization we visited told us that they hoped to incorporate quality in their strategic planning process.

At the beginning of each year, performance targets are set for each local unit. In more-centralized managed-care organizations, corporate managers are largely the ones who determine the targets. In more decentralized managed-care organizations, targets are negotiated in a series of meetings between corporate and regional man-

agers and between regional and local managers. Local managers bring an awareness of local circumstances to the planning process and corporate managers focus on broader trends. Regardless of the method used for setting the targets, implementation plans and budgets are developed locally (Smith et al., 2000), consistent with decentralized execution and resource control.

All the companies we visited review their units' performance in meeting their targets at least quarterly and sometimes more often. The formats for these interim performance reports focus on any deviations from the plan.

Incentives are tied to performance in meeting and even exceeding targets and they take several forms. Performance reporting triggers an automatic incentive from the desire to perform well. Most managed-care organizations further strengthen this incentive through a system of rewards explicitly tied to performance reports (Appleby, 1995; Gold et al., 1995).⁶ Health plan managers receive bonuses based on financial performance.⁷ In addition, they may be rewarded through promotion within the company or better job offers from other companies. One of the managed-care organizations we visited rewards performance with additional investment funds for new equipment, cutting edge programs, or even added professional development.

Reward systems for physicians and other health-care providers are also common and apparently effective (Fan et al., 1998; Hellinger, 1996). They may take the form of bonuses or payment withholds⁸ and are used primarily to reward financial performance or patient satisfaction. Financial rewards for technical quality of care appear to be less common, presumably because it is more difficult to measure.

⁶However, Newhouse (1996) argues that clinical performance measures without adequate adjustment for enrollee health may induce "adverse selection," in which healthy enrollees, who might be expected to generate more favorable outcomes, are favored over sick enrollees.

⁷The managed-care organizations we visited did not disclose the specifics of their bonus plans, but one managed-care organization told us that its bonuses accounted for an average of 25 percent of compensation.

⁸A percentage is withheld from the payments made to the providers, and partially or entirely returned to them at the end of the year, depending on performance.

Quality is enhanced through continuous quality improvement programs (Cave, 1995). These programs use a wide variety of standardized measures to assess quality outcomes.⁹ These outcomes include access to care and patient satisfaction and, increasingly, measures of the appropriateness of the treatments provided and health outcomes. In a continuous cycle, managers look for problem areas, design interventions and set specific targets for improvement, implement the interventions, and determine whether the targets are met. Targets are quantifiable and specific as to level and timing. As with business targets, progress is measured on a regular schedule.

Experts on the corporate staff play an important role in quality improvement. As we discuss in the next section, they develop and maintain the data systems. They support (and monitor) local and regional quality efforts with analytical expertise and education in problem identification, implementation, and assessment methods. Corporate experts also are responsible for identifying quality issues that cut across the company and transferring knowledge about effective treatments acquired from academic and industry sources. An effective quality improvement program requires a close working relationship between unit and corporate staff.

Information Systems

Increasingly, information is key to the management strategy of managed-care organizations (Dowling, 1995; Shortell et al., 1995; Kralewski et al., 1996). The managed-care organizations we studied are investing considerable effort and money in collecting the basic data and structuring effective management information systems and analytic toolkits. Information systems are developed and operated at the corporate level to eliminate duplication of effort and ensure that data are comparable across units and informative. Data sources include patient-care records or claims with sufficient clinical detail to develop quality indicators, regular patient surveys to determine overall performance in customer service and assess specific types of

⁹Most managed-care organizations use the Health Plan Employer Data and Information Set (HEDIS) measures, which are required for HMO accreditation by the National Committee for Quality Assurance and by many payers, including the Health Care Financing Administration.

care and even individual providers, and up-to-date enrollee and provider characteristics.

Many managed-care organizations have scrambled to improve their information systems in recent years. Sometimes, the requisite data weren't being collected, but often the problem was inadequate attention to data integration, quality and consistency, ready access, and analytic support for managers.

Information systems are also increasingly valuable as care management tools. The public backlash against intrusive care management practices has caused many managed-care organizations to rethink their managed-care strategies. Instead of reviewing the appropriateness of individual referrals and treatment decisions, managed-care organizations are attempting to induce more effective decisionmaking by their providers. Through the continuous quality-improvement process described in the previous section, the managed-care organizations identify patterns of practice that are inappropriate or unnecessarily costly (or both) and work with their providers to effect improvement. Interventions might include the adoption of formal care guidelines for specific types of patients or the development of new provider and/or patient education programs.

Recently, one of the largest managed health-care plans announced that it would eliminate its treatment review and authorization process entirely and rely exclusively on its information-driven continuous improvement program. Whereas other managed-care organizations have not followed suit, they are nevertheless taking more modest steps in the same direction.

SUMMARY OF LESSONS FROM CIVILIAN HEALTH-CARE ORGANIZATIONS

Civilian managed-care organizations deliver different sets of products. Some offer health plans but provide no health-care services, some deliver only health care, and some do both. Despite these differences, they have similar organizational structures, which are designed to facilitate management of health care for the populations they serve. Key elements of civilian health-care organizations include the following:

- **Geographic organizational structure.** Because almost all health care is provided locally, the basic operating unit of the health plan and provider group is local to the population served. The local operating units report to regional intermediate managers. The structure is designed to produce a reasonable and balanced number of reporting entities at each level. Resources, costs, and measured outcomes can be "rolled up" from local to regional to corporate levels.
- **Decentralized operational management and clear lines of authority.** Each local area has a single manager, although the same manager may have responsibility for more than one local area. Within a health plan, resources are allocated strictly according to enrollment, preserving the financial incentives associated with capitation payments. Decentralized management allows an organization to exploit its knowledge of local market conditions.
- **Clear responsibility for health-plan management versus health-provider management.** Experience suggests that an inherent conflict of interest between providers and health plans makes separate management desirable.
- **Strong accountability through regular and timely performance evaluation.** Establishing specific and quantifiable targets at each management level for annual performance and for new initiatives allows for early identification of problem areas and areas of unexpected success (an indicator of innovation).
- **Incentives to achieve a balanced set of outcomes.** Tangible individual and group rewards enhance the incentives already created with performance reports.
- **Sophisticated management information systems.** Increasingly, civilian managed-care organizations rely on high-quality, timely data for planning, monitoring performance, and determining rewards.

The literature is replete with reasons why effective private-sector organizational structures may not be easily adapted to the public sector or as effective there (Rainey, 1997). For example, political considerations may forestall decentralized management and interfere with decisionmaking at all levels of management. Public employees are thought to have weaker performance incentives and tend to resist

change. Nevertheless, it seems reasonable for the MHS to consider carefully the organizational approaches that appear to be effective in civilian managed-care organizations.

There is increasing evidence that some private-sector practices may be applicable to the public sector. Another large public health-care organization—the Veterans Administration—reorganized its system about five years ago to incorporate these private-sector practices (Kizer, 1995; U.S. General Accounting Office, 1999a; Luck and Peabody, 2000).¹⁰ More generally, the use of outcome-based performance agreements appears to be reaping benefits in a number of federal agencies (U.S. General Accounting Office, 2000).

HOW THE TRICARE ORGANIZATION COMPARES WITH CIVILIAN ORGANIZATIONS

As we noted earlier in this chapter, civilian managed-care organizations are structured geographically, with clear (and usually separate) assignment of health-plan and health-provider responsibilities at each level in the organization: local, regional, and corporate. We also observed that the resource flows were consistent with the assignment of responsibility.

Responsible health-plan managers are allocated resources in proportion to the population they serve and have considerable discretion over these resources. Health-provider managers also control resources in direct relation to the activities they oversee.

As described in Chapter Two, the TRICARE organization includes multiple provider organizations, as do some civilian managed-care plans. With the exception of the Air Force, each of these provider organizations is structured according to most civilian norms.

¹⁰The veteran's health system is managed through 22 geographic Veteran's Integrated Service Networks (VISNs). Each VISN receives a share of the annual budget based on the complexity of the patient population in its area. The VISN has considerable discretion in allocating resources to the VA facilities in its area and it pays for care provided by non-VA providers.

- The Army and Navy health-care delivery systems are structured geographically, with the MTFs reporting through a regional chain of command.
- Responsibility for each MTF, and for the delivery of services to its defined population, is clearly assigned to the MTF commander.
- The MTF commander has considerable discretion in allocating operations and maintenance funds and in employing assigned personnel. Subject to civilian hiring quotas and civil service personnel regulations, the commander has discretion in hiring civilian personnel. As is true throughout the DoD, however, funds cannot be transferred between the personnel and operations accounts. Also, authority to procure equipment and make other capital investments is limited.
- Under TRICARE, a considerable share of MTF activity is directed toward managing Prime enrollees. Plans to place MTF budgets on a capitated basis have not been realized to date.¹¹ No mechanism exists to ensure that the funding allocated to individual MTFs reflects their population and health-care responsibilities.

With regard to the health-plan function, the TRICARE organization displays few of the characteristics of civilian organizations.

- The ASD/HA has corporate authority over TRICARE, but has little authority over the allocation of resources, including military personnel, which account for 35 percent of the DHP budget (Defense Health Program, 1999). Our interviews with DoD officials and others concerning the MHS suggest that, in practice, decisionmaking in TRICARE is often shared between the ASD and the three Surgeons General.
- The TRICARE lead agents do not have authority to allocate the resources for their region. They serve primarily as coordinators, with little authority to implement managed-care initiatives. One exception to this is the "strong lead agent" initiative implemented on a test basis in the TRICARE Region 11 this year. This region, which includes Washington, Oregon, and the western

¹¹The system that was developed for capitated MTF budgeting, called "Enrollment Based Budgeting," has not been implemented.

edge of Idaho, has the most mature TRICARE program. This program is discussed further in Chapter Six.

- There is no clear assignment of TRICARE authority for individual “market” areas. The MTF commander has general responsibility for the beneficiary population in his or her catchment area, which is defined as roughly 40 miles in all directions from the MTF. However, the commander does not have effective authority over the contractor for his area or the resources that are consumed in the civilian sector. In areas with more than one MTF, responsibilities overlap.¹² As already indicated, the TRICARE regions do not have the authority to assume this management role.

Accountability, Incentives, and Information

Where responsibility and authority are not clearly and separately defined, accountability is not possible. Because the health-plan responsibilities are not clearly delineated in TRICARE, it is easy to see why so many of the DoD officials we interviewed noted that no single authority is accountable for TRICARE (see Chapter Five for more details).

Accountability for MTF and contractor performance has been strengthened over the past several years by the introduction of improved methods of measuring performance.¹³ The published performance reports incorporate standard measures that allow for comparison within the military system and between it and the civilian sector. These measures describe utilization patterns, access to care, and patient satisfaction fairly comprehensively. They include limited information on clinical quality of care and, for MTFs, no

¹²The number of locations with multiple MTFs decreased significantly in the 1990s due to base closures. Nevertheless, a number of such locations continue to exist—most notably, in Washington, D.C., and San Antonio, Texas. An effort to establish a joint medical command in San Antonio was not successful, although planning continues for more integration of the two large military medical centers there. The Washington situation was the subject of a recent report by the U.S. General Accounting Office (1999b).

¹³See the HEDIS 3.0 MTF Reports listed under “Browse by Topic” on the TRICARE Web site (www.tricare.osd.mil).

information on financial performance. Consistent with the weaker accountability for overall TRICARE performance, the reports are prepared by the service, contractor, and even the individual MTF but there is no report on overall performance at the local level.

The DoD has limited authority to employ incentive pay to reward performance and although there has been some interest in bonuses and other discretionary pays, equity and accountability concerns probably will prevent the DoD from employing the kinds of incentive pays used in the private sector. Furthermore, performance bonuses may not be as desirable in the TRICARE setting as they are in civilian health-care organizations. The literature argues that performance pay may not work well when outcomes are highly variable and employees are highly risk averse. Health system outcomes for small populations, such as those served by many MTFs, are notoriously uncertain and studies of public employees, including military personnel, conclude that their risk aversion is relatively high.

The military has potentially very effective non-monetary incentive systems. The most obvious of these are the processes for promoting personnel, assigning them to jobs, and selecting them for command positions. By recording individual and group performance using measures designed in accordance with organizational goals and directing that promotion and assignment selection appropriately weigh these measures, the military services can provide strong performance incentives to uniformed personnel.¹⁴ An assessment of performance evaluation and promotion or assignment selection practices for medical personnel was beyond the scope of our study; therefore, we cannot say whether they provide the incentives for performance that they might.

Until now, the MHS data systems would not have allowed the DoD to match the best performance evaluation practices in the civilian sector and implement robust incentive schemes. The automated outpatient data system, implemented in 1998, provided the last of the basic data elements needed, and the DoD is just now fielding an effective management information system that combines all the data

¹⁴See U.S. Department of Defense (1999) and Williamson (1999) for descriptions of the performance evaluation and promotion systems for officers and enlisted personnel, respectively.

elements and provides reports and analytic capabilities to managers throughout the system. Complete contractor data are still not timely, so managers will not know where TRICARE standard expenditures stand in time to make mid-course corrections. Finally, the MTF financial data continue to be of inconsistent quality.

The MHS has made a considerable effort to remedy its information system inadequacies. It is too soon to tell whether the new MHS information systems are ready to support the information-based management strategy that characterizes the best civilian health-care organizations.

Lessons for TRICARE from the Private Sector

Based on this discussion, it would appear that the most significant organizational lessons for TRICARE are as follows:

- Establish health-plan responsibility for TRICARE at the local, regional, and system-wide levels
- Ensure that the funding flows and other management authorities are consistent with this assignment of responsibility
- Strengthen MTF financial reporting and performance evaluation for the system overall
- Review the individual performance evaluation and promotion systems to ensure that they provide the right incentives
- Continue to improve the information systems.

Civilian managed-care organizations provide models that the MHS could emulate. However, some adjustments would be necessary because TRICARE is a public program. But, before we can consider organizational alternatives for TRICARE, we must first consider how the MHS is structured for readiness and the ways in which readiness and TRICARE interact.

**MEDICAL READINESS AND OPERATIONAL
MEDICINE**

The readiness mission of the MHS makes the system unique among U.S. health-care organizations. Its stated mission—to provide, and to maintain readiness to provide, medical services and support to the armed forces during military operations—implies several tasks that are the responsibility of MTF commanders and commanders of deployable medical units.

First, while at their home stations, active-duty personnel must be kept at the peak health needed for military effectiveness. This task is sometimes performed at deployable medical units, where medical personnel provide acute, minor care for personnel who are deployed or involved in training exercises. Otherwise, active-duty personnel are enrolled in TRICARE, and their healthcare is overseen by the MTFs.

Second, deployable medical units must be manned by personnel trained in individual military skills and specific medical specialties needed for wartime medicine. The development and maintenance of these skills call for training and experience in MTFs and with deployable units.

Third, the medical departments conduct operational missions by manning both medical and line units with appropriately trained medical personnel and deploying to provide support to operational units. These manning and training requirements fall to the services under Title 10 and imply continuous staffing of deployable medical

units at some level in order to maintain equipment and perform both military- and medical-specific unit training.

Finally, the tasks required by the readiness mission must be balanced against the benefits mission because the benefits mission is required for the maintenance of trained medical personnel and both missions draw upon overlapping resources. A key consideration when structuring the MHS is the coordination required to effectively execute both missions.

MEDICAL READINESS SKILLS

While training and maintenance of deployable medical units are essential to medical readiness, the manning of these units with qualified medical personnel is equally important. The requirement for maintaining qualified medical personnel who have skills and knowledge that are relevant to military demands makes medical readiness unique from other military readiness activities in some respects. Medical personnel who are specially qualified to support readiness across the spectrum of military activities, from humanitarian to combat missions, must possess several attributes:

- Medical training
- Clinical experience
- Military training
- Military experience.

In total, these attributes constitute the essential component to maintain medical readiness: the building and maintenance of expert human capital. These attributes are not exclusive, but are interrelated in several ways.

Medical training includes formal education as well as on-the-job training. Medical training can also be categorized as general or military-specific. Military medical personnel receive the same clinical training as their civilian counterparts. The DoD provides this training to various degrees among the services.

The Uniformed Services University of the Health Sciences (USUHS) is the DoD medical school, although most physicians in uniform are

acquired through civilian sources, often with their medical school funding provided by the DoD in return for a service commitment. Residency programs and other forms of graduate medical education (GME) are performed in the larger MTFs or in civilian programs. Other commissioned medical personnel, such as nurses, also are educated largely in civilian schools and incur a service commitment if their education is funded by the DoD. Their continuing and specialty training may be conducted in MTFs or civilian programs. In contrast, enlisted personnel who perform many medical technical specialties receive the majority of their training in DoD units and MTFs.

Medical readiness requires a specific set of specialized medical skills, some of which fall outside the civilian curricula. While some specialized skills that relate directly to military medicine may be covered in civilian curricula, their importance in the military setting may imply that the DoD should take the lead in the training of these skills, as it has done in several cases. Treatment of chemical agent casualties, some preventive medicine expertise, and management of mass casualties are some examples.

In addition to skills that may be included in civilian training but are useful in a military setting, some medical skills are specific to military applications and exclusive of civilian training. Aspects of undersea and flight medicine and stabilizing combat casualties for rapid evacuation are examples of these sorts of skills. Specific training for military medical personnel includes training that prepares them to support a particular type of unit or operation.

Medical personnel who deploy to perform wartime medicine must be proficient in specialties that are relevant to military operations. This requirement necessitates a peacetime case mix that allows personnel to maintain these specialized skills through clinical experience while they are assigned to MTFs. Maintaining an appropriate case mix for military health-care providers can be challenging, especially in the current managed-care environment of the MHS.

The challenge of balancing the benefits and readiness missions is underscored by a recent study conducted at the USUHS (LaMar, 1997). Researchers there developed a model to estimate the provider workforce composition needed to serve a defined population, such

as an MTF catchment area. They asserted that such models, which seek to define the most cost-effective mix of supply (providers) and demand (patients) and are based on MTF-like staff-model HMOs, do not account for the military medical readiness mission.¹ Some coordination required to ensure that the readiness mission is balanced effectively with managed care is discussed later in this chapter.

Certainly, medical personnel highly trained in general medical skills, as well as relevant medical specialties, are paramount to medical readiness. However, a need also exists for these personnel to be sufficiently trained in military skills. This training includes individual skills such as those required for survival in combat, which are taught in basic officer and enlisted training.

Although some medical professionals do ultimately follow operational career paths that require more-advanced individual, unit, and leadership training, this type of career path is often the exception. More commonly, medical personnel require military knowledge and experience that facilitates their ability to provide medical care in a military setting. Practicing medicine in an operational context, for example, often requires working under austere conditions characterized by high stress and limited resources. Such experiences usually require that medical personnel train with operational units, and the allocation of these personnel between the benefits and readiness missions is a challenge for the MHS.

To varying degrees, medical personnel must also understand the military context in which they will provide care. This is especially true for those medical personnel who work in combat units. These health-care providers should be able to deliver more-effective care if they understand their patients' working environments and occupations. Furthermore, these medical personnel often have additional, non-medical roles to play in support of the operational unit. For example, medical personnel on a submarine must also understand how to fight fires and perform other tasks required of the crew.

¹Although current challenges may exist in maintaining the skill mix required for wartime medicine, the treatment of a predominantly healthy population—such as obstetric and pediatric care—can satisfactorily maintain the skill mix generally required for military operations other than those for wartime.

Experience in operational units is important for medical personnel who must be able to communicate with supported units and earn the trust and respect of the supported personnel. Such ongoing relationships between medical personnel and operational personnel underscores an important cultural component to maintaining readiness.

This is not to suggest, however, that all medical support must be segregated based on service or mission. While cases may exist in which for medical reasons, military reasons, or both, medical personnel should be specifically trained and associated with a service or mission, there are other cases in which such division exists for what are essentially common functions. For example, the need for flight surgeons may on the surface suggest service-specific requirements, but in fact each of the services has aviation components, and the differences that have arisen across the services seem largely unrelated to medical effectiveness. The Navy trains flight surgeons in a six-month course that includes instruction on aviation physiology but also includes land and water survival and some flight training. The Air Force and Army teach flight surgeons only aviation physiology in a two- or three-month course and do not teach their surgeons to fly.

Unless a significant need exists for Navy flight surgeons to be trained to fly, or significant differences exist in the medical aspects of the service aviation components, the idea that these requirements are truly service-specific should be further investigated before they are accepted. The aviation components, however, present but one example. There are others, including the often assumed need for Army and Marine (Navy) medics and corpsmen to have more training in trauma medicine than their shipboard counterparts because gunshot wounds occur less frequently at sea.

There are trade-offs in balancing the attributes required for medical personnel to maintain readiness skills. Some trade-offs come in determining the allocation of effort between medical and military training: Military physicians do not need to know how to drive tanks or captain ships, but should be able to communicate with those who do and understand the medical ramifications of those activities. Medical personnel must gain experience in delivering health care under the unique constraints inherent in operational environments while also maintaining clinical proficiency. Other trade-offs arise in

considering whether medical and military training should be provided in service-specific programs or provided jointly.²

The assumed benefits from combining training activities include lower costs, which result from economies of scale, and improved interoperability across the services. Where there are considerable service-specific training requirements, joint training may not be less costly and can be less effective. Therefore, the true need for service-specific training must be determined before training activities are combined. Currently, the Defense Medical Readiness Training Institute (DMRTI) performs this determination with executive oversight by the Defense Medical Readiness Training and Education Council (U.S. Department of Defense, 1998; Assistant Secretary of Defense/Health Affairs, 1997).³ The DMRTI also provides a number of joint training courses in medical readiness skills.⁴

The growth and maintenance of human capital are at the core of medical readiness and are reliant on relevant medical and military training and experience. Such training and experience are related in many ways and efforts to consolidate activities in support of them should be considered, while using medical practicality and military relevance as guidelines for any consolidation.

OPERATIONAL MEDICINE AND JOINT DOCTRINE

The service medical departments generally employ similar strategies to supply medical personnel to combatant CINCs in support of large-scale operations. These strategies involve deploying medical personnel from MTFs to complement those personnel already assigned to combat medical units. Reserve personnel, or personnel from other

²A related trade-off to consider lies in evaluating the costs and benefits of civilian versus military medical training and education, but such analysis is beyond the scope of this study.

³The DMRTI's mission is to "coordinate, evaluate and develop Joint Medical Readiness Training initiatives with a focus on evolving doctrine and joint operational requirements. DMRTI conducts and facilitates selected joint medical readiness training programs to prepare Defense Department Medical Personnel for a wide range of military operations" (Assistant Secretary of Defense/Health Affairs, 1997).

⁴These issues are discussed further in Appendix A.

MTFs, may be assigned to replace the deployed personnel. In some cases, reserve personnel are also deployed to the combat theater.

In such large-scale operations, combat medical units deploy as part of their service component commands. This type of large-scale mobilization was last seen during Operations Desert Shield and Desert Storm. Today, like then, each service has somewhat different plans to support a major deployment.

Approximately 70 percent of the Army's combat medical force is in the Reserve Component, and the Army plans that these units will often be among the earliest deploying forces. In contrast, the Navy and Air Force have smaller reserve medical components. These services rely more on active-duty personnel to support large-scale deployments. Currently, the Air Force is considering an approach that is similar in some respects to the Navy approach. The medical personnel for the Air Force's deployment units would be drawn from its larger MTFs, which support more medical specialties, leaving smaller family practice clinics less affected by deployments.

Since the time of the Gulf War, the DoD has experienced an increase in the number of smaller deployments. In providing medical support to these missions, the general scheme of deploying personnel from MTFs and replacing those personnel with reservists seems to be followed less rigorously. Organizing support for these missions is often viewed as a unique, non-systematic exercise, supported by the most-convenient organization for the task under the given circumstances and the assignment of personnel in a more ad hoc manner than what wartime planning would envision. This less-systematic approach is most commonly used when only a few medical personnel are tasked to support a mission. Furthermore, these medical support missions typically are performed by only one service at a time.

In smaller missions that do not require the majority or all of a geographic combatant command, a Joint Task Force (JTF) commander is usually appointed by the CINC.⁵ Often, this commander is a service component commander in the geographic combatant command.

⁵This is one organizational option often employed by CINCs. Other options include service component command, functional component command, and subordinate unified command.

The JTF commander appoints a JTF surgeon to coordinate health service support; in most cases, this individual is the component command surgeon. As the component commands are divided along service lines, these smaller missions are often service-oriented, although they are still technically under the command authority of the geographic CINC.

These JTF missions are conducted on a smaller scale than major theater wars, and medical units are often pieced together to support them. Medical planners in each of the service components coordinate with the JTF surgeon to identify and assign medical personnel from MTFs (or reservists) to deploying units as necessary. Each service supports this process on a largely individual basis; in other words, there appears to be for all practical purposes no high-level authority that looks across all services to allocate medical personnel and assets.

Missions that primarily involve medical units are oftentimes among the smallest operations. In such cases, a medical unit is not merely in support of other deploying units but is in fact the centerpiece of the mission. These operations include humanitarian and disaster relief missions. For example, the Air Force has recently been active in sending ophthalmology teams on humanitarian missions to South America. By most accounts, these medical missions are almost always service-specific. Although coordination with the geographic CINC is essential to their success, the missions are often planned and executed by the service's medical department.

Although each of the services operates a distinct medical system within the MHS, operational medicine *doctrine* is joint in nature. As a former Commander-in-Chief, Central Command said,

Orchestrating land, sea, and air medical operations is demanding and requires joint medical expertise to integrate health service support (Peay, 1996–1997).

Several functions in operational medicine are coordinated jointly by doctrine, especially in a wartime setting. For example, patient

movement across the different echelons of care in the combat zone⁶ is normally the responsibility of the service component commands, but it is coordinated by a Theater Patient Movements Requirement Center. A command surgeon employing a joint staff oversees such coordination.⁷

In addition to this joint coordination, some operational activities are assigned to a single service. For example, the Army evacuates patients from Navy hospital ships and evacuation from the combat zone is normally an Air Force responsibility (U.S. Department of Defense, 1995).⁸

COORDINATING READINESS

A key consideration with organizational structures is the coordination required to effectively execute an organization's mission or missions. In this case, there are some notable coordination issues associated with the medical readiness mission and operational medicine. We distinguish between *situational coordination* and *institutional coordination* because each implies different requirements and levels of effort among organizations.

Situational coordination facilitates planning and execution for a situation that is unanticipated or distinct from normal operations. Institutional coordination results in standing agreements about how organizations will jointly conduct anticipated missions and normal day-to-day operations. By its nature, situational coordination is ephemeral whereas institutional coordination is more long-lasting. Situational coordination often must be done quickly as a situation unfolds. Institutional coordination can be accomplished more sys-

⁶This movement generally corresponds to the movement or evacuation of casualties to or between MTFs in the combat zone (generally forward of corps level).

⁷Although regulations state that "a Joint Force Surgeon (JFS) should be appointed for each combatant command, sub-unified command, and joint task force" (U.S. Department of Defense, 1995), we use the more familiar term "command surgeon" here. Command surgeons are medical officers (generally health-care delivery professionals and most often physicians) who serve as staff officers reporting ultimately to the combatant commander (the "Joint Forces Commander" in Joint Pub 4-02).

⁸Additionally, evacuation from the theater is the responsibility of CINCPAC, Transportation Command.

tematically through a variety of means, including contractual agreements, letters of understanding, or through the careful distribution of resources, incentives, and objectives across organizations.

The MHS has a peacetime institutional coordination requirement to balance the distribution of medical personnel between peacetime health-care delivery and readiness training. In some cases, readiness training involves training with combat units. Effective combat training will necessitate removing medical personnel from delivering peacetime health care to some degree. Conversely, medical personnel assigned to combat units require ongoing medical skills training, which may often be provided at MTFs or by personnel from MTFs during unit training.

As with all support functions, medical support must be carefully coordinated within an area of operations among supported and supporting units. All things being equal, it is reasonable to assert that the effectiveness of a support function will increase with the supporting commander's knowledge of what is being supported. In a medical setting, this may suggest, as some interviewees noted, an advantage of same-service support. One example is in the field of preventive medicine.

Preventive medicine specialists are likely to be more effective when they have an intimate understanding of the activities of the force they are supporting because the activities often have direct health consequences. This implies a need for not only situational coordination between medical and line units, but also some degree of institutional coordination to ensure that the medical personnel have adequate training to understand and effectively support the line unit.

Service-specific medical functions require institutional coordination between the medical and line elements in the service. These functions include elements of operational medicine, such as support for undersea warfare or for the various types of operations in which each service specializes. However, other examples of medical needs or operational medical support may not be as clearly service-specific, as discussed previously in the section "Medical Readiness Skills."

One coordination activity that is essential to ensuring medical readiness is the assignment of health-care workloads to the MTFs during peacetime. MTF commanders make these assignments indi-

rectly through pertinent policies, such as those governing patient appointments, while taking into account facility size and staffing constraints. A 1995 Congressional Budget Office (CBO) report found that the care furnished in MTFs during peacetime bears little relation to the care required by the numerous diseases and injuries that military medical personnel must be trained to treat during wartime (Congressional Budget Office, 1995). Furthermore, the CBO report predicted that under TRICARE most military medical providers would have a limited opportunity to prepare for their wartime mission. The opportunity exists to institutionally coordinate the benefits mission with readiness requirements by shaping the peacetime workload to best reflect treatment of the sorts of diseases and injuries expected in war.

MTFs provide priority access to TRICARE Prime beneficiaries—predominantly healthy active-duty service members and their families, and retirees under the age of 65. Some interviewees felt that this population does not adequately reflect the complex and sometimes rare medical cases encountered in other populations with lower access priority. For example, retirees over the age of 65 may present more cardiac surgery cases, but this population is treated only on a space-available basis at most MTFs.⁹ These patients often receive care from civilian providers under Medicare. The 1995 CBO report further recommends coordinating with civilian trauma centers for military physician training because the case mix at these centers more closely resembles wartime expectations.

The degree of institutional and situational coordination that is required to produce effective medical support and readiness is debatable, but it is clear that the degree of coordination needed for readiness should be considered a key driver in determining organizational structure.

⁹Beginning October 1, 2001, Medicare-eligible retirees also will be eligible for TRICARE benefits. If more of these older beneficiaries receive specialty care in the MTFs, at least some of the concern about case mix would be alleviated.

READINESS OBJECTIVES OF THE MHS ORGANIZATION

Problems with the medical readiness mission may surface only occasionally, but when they do, their consequences can be severe. Following Operations Desert Storm and Desert Shield, separate U.S. General Accounting Office reports questioned the services' capability to provide adequate medical care had the ground war started earlier, lasted longer, or resulted in the predicted number of casualties (U.S. General Accounting Office, 1993a; 1993b; and 1993c).

The criticisms in these reports included findings that the information systems that were used to identify and assign personnel to medical units contained outdated and incomplete information, and medical personnel had not trained during peacetime to perform their wartime missions. These and other issues were addressed in Medical Readiness Strategic Plans issued in fiscal years 1995 and 1998; the 1998 document records the steps taken to resolve identified problems (Assistant Secretary of Defense, Health Affairs, 1995; Assistant Secretary of Defense, Health Affairs, 1998).

Unlike the benefits mission of the MHS, the readiness mission is unmatched in its objectives and scale. Few lessons can be applied from the civilian sector, other than the general principles of organizational theory, which are discussed in Appendix B. Without other experiences to provide a basis for deciding on the best organizational approach to ensure medical readiness, we can highlight only those aspects of the medical mission and organizational principles that are most likely to be essential to ensuring success. Among those aspects are the requirement and ability to coordinate among the various elements of the organization and their respective missions. Such coordination could best be enabled with a structure that defines clear lines of authority and responsibility and is supported by appropriate and timely information, performance evaluation, and suitable incentives. The MHS currently employs a diffuse management structure that appears to lack some of these elements.

A main objective of any MHS reorganization is to ensure that the resulting organization is capable of maintaining readiness. Therefore, no barriers should exist that would preclude effective coordination between satisfying the demands of the benefits missions and the demands of the readiness medical missions.

Leadership will require the information, authority, and responsibility to allocate the resources necessary for efficient readiness training of medical personnel. Those who are charged with any reorganization of the health-care system should identify, and give careful consideration to, circumstances in which medical support would be specific to a certain service or mission. In this way, the relationships between each service's medical and line units can be fostered.

Those involved in the reorganization should also consider methods to ensure that the appropriate levels of interoperability between training and operations are maintained.

OTHER ASSESSMENTS OF THE MHS ORGANIZATION

To complement our reviews of health plan organization in the civilian managed-care sector and readiness issues in the military sector, we reviewed past reports on the MHS and interviewed senior DoD officials and others who are knowledgeable about military health issues. The past studies revealed a debate on military health system organization that has continued intermittently for five decades. Interviewees focused on many of the same issues that motivated the earlier investigations.

PREVIOUS STUDIES OF MILITARY HEALTH SYSTEM ORGANIZATION

The question of how best to organize military medicine first arose after World War II, when the establishment of a large standing military force necessitated a sizable permanent medical system. The first decision the DoD faced in this regard was whether to create a separate medical service for the Air Force.

In 1947, the Army—both the Surgeon General and the Chief of Staff—strongly favored a unified medical system, but the Navy and the Air Force disagreed. In 1949, the Joint Chiefs of Staff (JCS) urged formation of a completely unified and amalgamated (that is, a single) Medical Service.

Since the late 1940s, at least 13 studies have addressed military health-care organization (see Table 5.1). All but three studies have

Table 5.1
Previous Studies of Military Health-Care Organization

Year	Name	Recommendation		
		Create Unified Service	Add to Central Authority	Keep Separate Services
1948	Hawley Board		✓	
1949	Cooper Committee		✓	
1949	First Hoover Commission	✓		
1955	Second Hoover Commission		✓	
1958	Consultant to President			✓
1970	Presidential Blue Ribbon Panel		✓	
1975	Military Health-Care Study			✓
1979	Defense Resource Management Committee			✓
1982	Grace Commission	✓		
1983	Systems Research and Applications Corporation Report to Congress	✓		
1990	ASD/HA Report to Congress		✓	
1991	OSD/HA Joint Working Group		✓	
1991	OSD Office of Administration & Management	✓		

avored either a unified system or recommended a stronger central authority to improve coordination among the services.¹ The first Hoover Commission in 1949 went even further and recommended a

¹Information on the studies before 1975 comes from Hunter and Baker (1983).

United Medical Administration for almost all federal health-care activities. The second Hoover Commission in 1955 reiterated its concern about duplication and competition in the military health programs, but was more cautious in its recommendation for greater coordination. In 1958, when President Eisenhower asked Dr. Fred Collier of the University of Michigan to evaluate military medicine, Collier concluded that coordination between the medical departments would be adequate without a unified system and focused instead on the development of teaching programs as a means of ensuring quality of care.

Anticipating the move to a volunteer force, in 1970 a Presidential Blue Ribbon Panel recommended that coordination be enhanced by assigning responsibility for reviewing health budgets and manpower to a Director of Medicine and Health. Likewise, a major 1975 Military Health Care Study suggested (without specifics) that system efficiency and effectiveness would improve with the establishment of a central entity to coordinate medical planning and regional authorities to oversee operations.

Several years later, the Defense Resource Management Study team decided not to consider consolidation, concluding, "It is difficult to show that either regional commanders or a central DoD agency would improve efficiency or effectiveness, or to show that they would not (Rice, 1979)." However, the study also suggested that if its other recommendations led to inadequate improvement in the system, then the question of consolidation should be reopened. Three years later, in 1982, the Grace Commission again recommended the creation of a centralized health agency.

In 1983, the Systems Research and Applications Corporation (SRA) prepared the most detailed of these organizational studies in response to a request from the Senate Armed Services Committee (Hunter and Baker, 1983). The committee requested a study of the feasibility of and benefits to be gained by creating a defense health agency modeled after existing defense agencies. The SRA report created a detailed blueprint for such an agency, with a hierarchical management structure including a headquarters reporting to the ASD/HA, and including regional commanders in the U.S. and over-

seas theaters, and the MTFs and Office of CHAMPUS² at the operating level.

Under this scheme, the surgeons general would focus on medical readiness, including mobilization planning, research and development, combat support doctrine, and career development of military medical personnel. The draft of the SRA report drew negative comments from the Joint Staff and the services, who focused on potential difficulties in coordinating medical activities and resource management during peacetime and deployment. Senior DoD officials clearly doubted the ability of defense agency leadership to develop effective relationships with the services and manage the medical system efficiently. The authors of the SRA report disagreed and concluded that a health agency could be both beneficial and feasible if it is well-managed and fully supported by the medical departments. Their arguments in favor of a health agency were based on expected benefits from separating the management of the two missions—improved readiness from having the surgeons general focus on the medical readiness mission and, more efficient management of the MTFs and better integrated health-care delivery from the benefits mission.

The result of all these studies was the establishment of an Assistant Secretary of Defense for Health Affairs, or ASD/HA, and a gradual increase in the authority vested in that office. The current MHS organizational structure evolved in response to a study prepared by the Director of Administration and Management in the OSD, at the request of the Deputy Secretary (U.S. Department of Defense, 1991a).

The OSD study postulated three alternative organizational structures: (1) strengthening the role of the ASD/HA in overseeing a unified medical budget; (2) a unified U.S. medical command; and (3) a defense health agency. The report concluded with a matrix of advantages and disadvantages to each alternative. The study's authors expected that strengthening the role of the ASD/HA would be less disruptive than the other two options and improve the OSD's ability to make tradeoffs across the MHS, but leave the system without the single authority needed for integration of the peacetime and wartime missions and high performance.

²The Civilian Health and Medical Program of the Uniformed Services is widely known by simply its acronym.

A medical command would create a strong central authority at the cost of a reduction in the role of the military services in taking care of their personnel. A defense agency would be similar to a medical command, but it would reduce military involvement in medical readiness planning and operations. The Deputy Secretary chose the first alternative, stating, "establishment of such an agency could create organizational turmoil in medical affairs at a time when the Department cannot afford it." He specifically cited the implementation of managed care and a concern that disruption of the medical program would affect retention and recruitment during the draw-down (Deputy Secretary of Defense, 1991).

PAST REORGANIZATION OBJECTIVES

Over the decades, proponents of a unified medical structure have cited many of the same objectives, including the following:

- Improve medical readiness through better planning, training, and operational systems
- Ensure quality of care
- Control costs through better coordination of resource management decisions and service delivery
- Establish clear command and control of the medical system.

Sharp increases in health-care costs motivated many of the reviews of the MHS. For example, total MHS costs (including personnel costs) rose between 1979 and 1989 at an annual rate of 12 percent in nominal dollars and 5 percent in constant dollars (Congressional Budget Office, 1995). As a result of these increases, the share of the defense budget allocated to the MHS increased from less than 4 percent to 6 percent or higher. The fact that civilian employers were experiencing similar cost increases was of little consolation as DoD officials and the Congress watched funding shift from other defense programs to the MHS. Annual shortfalls in the funding for civilian health care raised questions about the ability to forecast costs and develop meaningful budgets.

Complaints about unclear command and control and inadequate MHS management systems developed as the Congress and DoD

leadership looked for ways to control costs. The same issues are raised in just about all the studies: duplication of effort and even competition for business by the medical departments, lack of coordination in the allocation of personnel and other resources, poor coordination and continuity of care across MTFs and with civilian providers, inadequate data systems and costing methods, and minimal communication of lessons learned within the system.

Since the possibility of a large conflict with the former Soviet Union has been eliminated, there has been less concern about acquiring adequate personnel and equipment to provide operational medical support, although determining requirements for the new era has been difficult and contentious (U.S. General Accounting Office, 1995). A continuing need also exists to reshape deployable units, training, and medical doctrine for the wider array of missions experienced in the 1990s and to support evolving combat structures and strategies.

INTERVIEWS WITH CURRENT OFFICIALS

To update the viewpoints on the military health system contained in earlier studies, we interviewed senior DoD officials. A list of the interviewees can be found in Appendix C. They include members of the DMOC and senior leadership in the MHS. We also interviewed members of the congressional staff, the General Accounting Office, the Joint Staff, and several former DoD officials who served in recent years. Finally, we made a site visit to TRICARE Region 11 in the Pacific Northwest where we interviewed staff from the regional (lead agent) office and staff at the three MTFs in the Seattle-Tacoma area.

The interviews were based on a short list of open-ended questions that were designed to prompt discussion. The questions and relevant congressional language were provided to respondents prior to the interviews. The questions included the following:

- Why do you think interest in reorganizing military health care has reemerged? What are the problems with the system today?
- Setting aside whether or not a joint command is a good idea, how would you structure such a command?
- Are there other organizational changes to consider?

- What are the advantages and disadvantages to organizational alternatives?
- Which approach do you favor, if any?

Responses to the first question resulted in a summation of what objectives might be met by a reorganization. The interviews did not result in an exhaustive list of organizational alternatives, but they did provide some insight about the alternatives discussed earlier in this report.

Reasons for Considering Reorganization

In its report accompanying the Senate FY 2000 authorization bill, the Senate Armed Services Committee referred to the changing environment for military medicine:

The committee is concerned that the current Defense Health Program (DHP) organizational structures are unnecessarily complex and unwieldy. The military health care environment continues to evolve and new variables affect the DHP's ability to accomplish the mission. Examples of this mission evolution are increased frequency of deployment, force protection issues, and the emphasis on prevention rather than intervention. All of these variables demand rapid decision-making, effective communication, and reevaluation of priorities and resource allocations. The committee is concerned that current structure may not facilitate rapid responses or flexibility. (U.S. Senate Armed Services Committee, 1999).

Several officials indicated that earlier readiness problems, such as some identified by the General Accounting Office (GAO) following Operations Desert Shield and Desert Storm, have been addressed. However, some officials also suggested that interoperability of the services' deployable units in supporting increasingly joint operations remains deficient, and they expressed some concern that medical readiness has again become overshadowed by the peacetime managed-care mission.

However, most of the problems identified in recent years lie in the delivery of peacetime health care, and not in readiness. TRICARE, which was phased in between 1993 and 1998, is the culmination of years of effort to introduce managed care in the MHS. Officials in the

Congress and DoD perceive that TRICARE functions better in West Coast regions, which were the first to implement the program and tap into a mature civilian managed-care industry, than in other regions. Many of the officials we interviewed for this study cited similar concerns about TRICARE:

- Inaccurate budget estimates, which some officials relate to an ill-defined benefit
- Escalating costs
- Beneficiary dissatisfaction with access to care and administrative procedures³
- Civilian provider dissatisfaction, especially with the timeliness of claims processing and payment⁴
- Problems in contracting for the civilian component of TRICARE, including successful challenges to past contract awards.

These are essentially the same problems that plagued the MHS before TRICARE. Frustrated at the apparent lack of progress, at least in some regions of the country, the most common concern expressed was over the lack of a single authority for the MHS who could be held accountable for improving TRICARE performance.

Region 11 interviewees provided us with valuable perspectives from the regional and local levels.⁵ Most expressed frustration with the multiple chains of command in the current organizational structure. It often happens that guidance from the TMA and the service's intermediate commands conflict, making it difficult to integrate health-care delivery across the MTFs and civilian providers. Without exception, Region 11 managers believed they had established good relationships locally and could manage TRICARE effectively as a team if given the necessary authority. Most were skeptical about a joint command for two reasons: (1) They feared it would add another

³Recent beneficiary surveys show a noticeable increase in satisfaction, however.

⁴Recent data from TMA indicate that claims processing has recently improved dramatically.

⁵Our visit occurred as Region 11 was beginning to discuss how to execute the "strong lead agent" test. See Chapter 6 for more on this test.

management layer. This concern would be mitigated if the service's intermediate commands were replaced by a single intermediate command; and (2) MTF managers worried about maintaining their relationships with local line commanders, which they feel are critical for readiness.

Opinions on MHS Organization

Although the majority of officials we interviewed cited concerns about the current MHS organization including its effectiveness, fewer offered specific or comprehensive recommendations for reorganization. However, approximately two-thirds of the officials supported some type of reorganization. The organizational alternatives that were discussed included the following:

- A joint command
- Increased service responsibilities for both MHS missions—military readiness and benefits
- Increased responsibility and authority to regional lead agents (similar to the “strong lead agent” test currently underway in TRICARE Region 11)
- A defense health agency.

Of those who supported some type of MHS reorganization, most sought to correct the perceived lack of a single authority and clearly defined responsibilities among subordinates.

Approximately one-half of the officials suggested reorganization similar to a joint command with service components. These suggestions generally resemble a joint medical command with service components, with some variation. For example, some officials suggested that TRICARE would be a staff function of a joint command, but others placed this role in service component commands. Finally, one official suggested a novel variation—a component command for a joint medical operations task force in addition to service components. The task-force component would organize and tailor joint medical forces for deployment to operations such as small-scale contingencies. These forces would then be made available to a com-

batant CINC for employment, through coordination with the command surgeon of the geographic command.

Among those officials who did not favor a joint command, some were uncertain about the best course to follow, and others appeared to endorse the status quo. A third group advocated devolving all medical activities to the services—in effect establishing three medical programs. In all cases, the key concern about a joint command was its effect on the relationship between the medical units in a service and the supported line units.

We found only minimal support for separate organizations for the two missions (for example, a joint command with readiness and TRICARE components). Almost all of the individuals we interviewed suggested that unity of medical command is a requirement for success, particularly in ensuring that the requirements of operational medicine are recognized in day-to-day activities. However, a distinctly minority view held that the two missions are very different and frequently conflict, and should therefore be housed in separate organizations. A suggested benefit of organizations segregated by missions is that there would exist clearly defined responsibilities and authorities for the leadership of each resulting organization. On the other hand, opponents of separate organizations cited greater bureaucracy and more difficult or decreased coordination across the missions.

A large majority of officials were opposed to the establishment of a defense health agency. Many of those opposed to an agency suggested that this option would make the coordination necessary to support readiness too onerous. Similarly, others were concerned that civilian leadership of the large peacetime mission would detract from the military readiness mission. However, proponents of this option (a distinct minority) cited the benefit of clearly defined responsibilities and authorities for each of the two missions. They suggested that a defense health agency run by civilian leadership experienced in health-care management would be best suited to provide peacetime health care.

An underlying theme of several of the interviews we conducted was the perceived unpopularity of defense agencies in recent years. Overall, most officials who opposed the establishment of a defense

health agency cited the lack of a single authority over both missions of the MHS as a primary reason for their opposition.

Other Organizational Issues

The interviews we conducted were intended to invite officials to raise issues related to a possible reorganization of the MHS. Although only a portion of those interviewed strongly endorsed one organizational alternative over others, many provided comments about issues that they felt should be considered regardless of potential organizational alternatives.

Many interviewees expressed an opinion regarding the type of officer who would lead a joint command, if one were established. They were divided in their preferences for a line officer (with a medical officer as deputy) or a medical officer as commander. Those recommending a line officer stressed the experience in managing large organizations that most of these officers acquire, their likely objectivity on medical matters, and their likely credibility with other line officers. Those recommending a medical officer felt that medical expertise would be essential for an effective command and the advice of a deputy could not be substituted for the directives from a medical officer. They noted that other large combat service support organizations are typically commanded by an officer with extensive experience in the support function.⁶

Some officials questioned the value of the Region 11 test (see Chapter Six) and, more generally, the notion of testing new organizational concepts. Regarding the Region 11 test, these officials believed that reorganization at the regional level would fall short because central management authority continues to be fragmented. Several officials also pointed out that it will be impossible to generalize the results of a test in Region 11 because it is the smallest and most effectively managed in the system. A few officials questioned whether reorganization can be tested at all.

⁶Similarly, most CEOs of large civilian managed-care organizations are health administrators or physicians with management experience. A review of eight of the largest civilian managed-care organizations showed that only one CEO had no prior health experience. Most CEOs and other top managers had spent their entire careers in health management. Four of the eight CEOs are physicians.

ASSESSMENT OF MHS ORGANIZATION OVER TIME

Comparing the perspectives advanced in past studies with attitudes expressed in interviews today, it appears that the reasons for considering MHS reorganization have changed little. They continue to include the following:

- Improved cost management
- Better integration of health-care delivery
- More-effective administrative processes
- Sustained attention to readiness.

Although there remains considerable uncertainty regarding the benefits of specific organizational alternatives, including a joint command, the interviews conducted in this study suggest more support for reorganization and present a greater variety of alternatives than in previous studies.

ASSESSING THE ORGANIZATIONAL ALTERNATIVES

In Chapter Two, we identified five organizational alternatives for structuring an MHS organization (see Table 6.1 for a list of these alternatives). Each of these alternatives structures the chain of command somewhat differently.

Three of the alternatives (Numbers 2, 4, and 5 in the table) adopt the civilian-sector practice of separating health-plan management from health-provider management. The two alternatives based on the current structure (Numbers 1 and 2) leave overall command of medical activities to the services, but Number 2 restructures TRICARE's health-plan management. Of the three joint alternatives (Numbers 3 through 5), two of them (Numbers 3 and 4) maintain service-specific medical chains of command for both readiness and TRICARE, but break the command relationship between the medical departments and their service leadership. The other joint arrangement (Number 5) creates component commands for readiness and TRICARE and moves all TRICARE activities to a geographic structure. A variation on this alternative would move the TRICARE component to a defense agency.

EXAMINING THE ALTERNATIVES

To assess the alternatives, we kept in mind the lessons we learned from the civilian sector, as discussed in Chapter Three; readiness considerations, as outlined in Chapter Four and the issues raised in

Table 6.1
Management Structure in Organizational Alternatives

	Current Structure: Number 1	Modified Current Structure: Number 2	MEDCOM Service Compo- nents: Number 3	MEDCOM Service, TRICARE Compo- nents: Number 4	MEDCOM Readiness, TRICARE Compo- nents: Number 5
Single MHS authority			✓	✓	✓
TRICARE management organization		✓		✓	✓
Combined MTF and TRICARE management			✓		
Service-based organization for readiness	✓	✓	✓	✓	✓
Service command of readiness, MTFs	✓	✓			

past studies and the interviews we conducted, as discussed in Chapter Five.

These considerations suggest that the best MHS organizational structure would include the following:

- Clear assignment of responsibility within the MHS and possibly a single authority
- A coherent TRICARE health-plan management structure with designated local area managers
- Assignment of authority over resources and other decisions, consistent with the assignment of responsibility
- Strong accountability and incentives

- Mechanisms that ensure that the services have highly effective operational medical support and the medical-line relationships that this requires
- Clear assignment of responsibility, resources, and authority for readiness and mechanisms for coordinating with peacetime health-care delivery.

The last two elements in this list are what make the MHS an unusually complex health system. It must closely coordinate medical and non-medical functions within the services and integrate medical functions across the services and civilian contractors. The current structure is largely service-based, in the belief that it will maintain strong medical-line relationships within the services. Over time, the authority of the ASD/HA has been strengthened in an effort to also improve integration across services and the civilian provider community. The result is an organization that is neither service-based nor unified, and that fragments responsibility.

Implicit in the current organizational structure, and in most discussions on the subject, is an assumption that activities are most effectively coordinated when they belong to the same organization. However, the private sector has discovered that this may not be the case in very large organizations. The development of flexible contractual relationships has allowed effective coordination between individual companies, each of which focuses its expertise on a subset of activities. It is difficult to say whether the MHS, as a public organization, would be able to successfully adapt these practices .

Determining which MHS organizational alternative is "best" involves choosing which activities to organize under common management and which can be coordinated across organizational lines. The choice involves judgments on whether (1) focusing health-plan responsibility in a separate management structure would improve TRICARE performance without damaging the ability to coordinate peacetime health-care delivery and readiness; (2) the benefits of a joint command (or defense agency) would justify removing health care from the services' command chains and potentially damaging service-specific competencies; and (3) within a joint command there should be a single chain of command for both missions or whether those missions should reside in separate organizations.

The clearest shortcoming in the current MHS organizational structure is the fragmented responsibility for TRICARE. Our four organizational alternatives attempt to correct this situation in different ways. Alternatives 2, 4, and 5 in Table 6.1 follow the standard approach in the private sector and even other public health systems (for instance, the Veterans Administration) by assigning health-plan responsibility to a single organization, which would be structured geographically in local and regional management units. TRICARE management would be separate from MTF management, consistent with the principle of separating health-plan management from health-provider management.

Whether this model would fit well in the MHS depends entirely on the development of effective coordination to ensure that TRICARE management practices do not impede readiness. It should be possible to encourage TRICARE-readiness coordination by monitoring and rewarding performance in both missions.

Alternative 3 in Table 6.1 takes a very different approach from the other alternatives, assigning health-plan responsibility to the services and, at the local level, to the MTF commanders. This structure may facilitate TRICARE-readiness coordination within the MTF, but it would create three TRICARE organizations and risk conflict of interest between health-plan and provider management.

Improved TRICARE management may be possible without establishing a joint command by restructuring the TRICARE Management Activity and giving it the responsibility and authority necessary for managing a health plan (as with Alternative 2). The current Region 11 test of a "strong lead agent" is a pilot of this approach. The test should show whether more-effective TRICARE management could be achieved without also establishing a single authority in the form of a joint medical command. Alternatively, merely establishing a joint command as an added management layer on top of the current structure (as in Alternative 3) is unlikely to provide an effective MHS organizational structure. Clarification of responsibility and appropriate assignment of authority, at least for TRICARE, are also needed.

As we describe in Chapter Two, the other way to unify MHS management is to establish a defense health agency. The Secretary of Defense has the authority to establish a defense agency when it is

determined that such an action would be a more effective, economical, or efficient means to provide for the performance of a support activity that is common to more than one military department (U.S. Code 10 §191).

The experience of civilian managed-care organizations, as described in Chapter Three, indicates that there are few economies or efficiencies of scale to be gained by such a consolidation. Therefore, the rationale for a defense health agency would have to be that the appropriate civilian leadership would add needed expertise in managed care. Most DoD officials appear not to believe that the expertise would be forthcoming.

With respect to readiness, unity of command is a principle of war, unity of effort is fundamental to joint warfare (U.S. Department of Defense, 1997), and interoperability "is the foundation of effective joint, multinational, and interagency operations" (Shelton, 2000).¹ However, it is not clear whether a joint command is necessary to optimize these principles for operational medicine and readiness, or whether current joint doctrine for health service support or other options would be sufficient if applied diligently.

In our interviews, we found very little support for separating management of the MTFs and deployable units, even within the integrating structure of a joint command (as with Alternative 5). Creating a defense agency for TRICARE was particularly unattractive to interviewees. Unity of medical command was thought to be necessary for ensuring that operational medicine requirements are recognized in day-to-day MTF activities. However, a distinctly minority view held that readiness and TRICARE are very different and frequently conflict. This view suggests that the peacetime care mission demands the greatest attention from the leadership of an integrated organization, posing a risk to the operational mission.

Although all the services have command and control over their deployable units and MTFs, only the Air Force currently integrates its

¹"Interoperability" is defined in Joint Publication 1-02 as "the ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together."

command structure for non-deploying and deploying medical units. In the Army and Navy, the non-deploying units are organized in a medical command and the deploying units are assigned to the operational forces. Thus, coordination of peacetime care and readiness now requires coordination across organizations in these two services. It is not obvious that coordination would be more difficult across component commands within a joint medical command than it now is across commands within a service.

RECOMMENDATIONS

The experience to date in other managed-care organizations suggests that careful consideration be given to reorganizing TRICARE management. This would involve establishing a chain of authority responsible for overall TRICARE performance at the local, regional, and national levels. Careful consideration should be given to separating this TRICARE organization from the military services' medical management structures to minimize the conflict between health-plan and health-care provider management.

The strong lead-agent initiative now being tested in TRICARE's Region 11 provides an opportunity to examine the value of consolidating TRICARE management authority. However, this test will be meaningful only if the Region 11 managers are given the considerable authority and flexibility needed for effective health-plan management and if the short duration of the test does not preclude real change. If the Region 11 test suggests that reorganization of TRICARE will be sufficient, then we urge consideration of the more-extensive modifications envisioned in Alternative 2.

If the Region 11 test reveals that effective local management would be problematic without reorganization at higher levels, a joint command would be the obvious next step. Even with this course of action, the same organizational structure is unlikely to be optimal for all objectives.

Because each of the objectives for the best MHS organizational structure listed earlier in this chapter may be valued differently, and because non-organizational decisions will also affect their achievement, we recommend that DoD leadership consider the relative importance of these objectives in selecting a specific joint command

option. Also, for these reasons, we do not recommend one specific option in this report; however, we have described instances in which one option may better enable achievement of a specific objective.

Unless a joint command is established, it is impossible to know whether it would manage the system more effectively and maintain medical-line relationships important for medical readiness. There is no guarantee that a joint command would succeed in solving the persistent performance and cost problems that motivated the many studies of MHS organization, including this one. However, a joint command would “put someone in charge” of military health, a step most DoD senior officials advocated during the interviews conducted for this study.

MEASURING PERFORMANCE AND PROVIDING INCENTIVES

In Chapter Three, we describe how civilian managed-care organizations increasingly rely on quantitative measures to achieve accountability by evaluating ongoing performance and monitoring the progress of new initiatives. If the MHS is reorganized to clarify responsibility, a high priority should be given to implementing the same kind of performance evaluation system.

Consistent with the principle that all key outcomes should be measured, readiness performance measures appropriate for MTF and TRICARE managers as well as deploying unit commanders are needed. Complete and accurate data must be available much more quickly than they are today.

A balanced performance evaluation system including TRICARE and readiness measures would itself provide an incentive to achieve desired outcomes and a good “report card.” There are a number of ways to strengthen this incentive. The most obvious is to incorporate relevant health-care outcome measures in the personnel evaluations for MTF commanders, clinical service chiefs, TRICARE managers, and even individual providers.

Another approach is to develop group incentives, such as extra discretionary resources for MTFs that perform well.

These other organizational elements cannot be overemphasized. Without effective performance measurement and appropriate incentives, restructuring the organization chart will not be effective.

The reverse is also true. Without restructuring to clarify responsibility and authority for military medicine, current efforts to improve performance measurement will fail to achieve the desired improvements in management.

UNIFYING THE TRAINING CURRICULUM

The Congressional request that led to this report inquired about a joint training curriculum and a unified chain of command and budgeting authority. Our research focused on managed-care management approaches and the special considerations for coordination arising from the readiness mission. Much of this report focuses on the chain of command and resource management authority, but we have not examined in detail the DoD's vast and complex medical training programs.

Drawing on research on military training programs in general, we can offer some tentative conclusions about the feasibility and desirability of further unifying the training programs. Although the FY 2000 defense authorization act, discussed in Chapter 1, specifically mentions training curriculum, we also consider unified delivery of the curriculum.

Two goals exist for unifying training: (1) enhancing the ability to integrate peacetime and wartime care across the three service systems through cross-service integration of training and (2) cost savings associated with economies of scale in training. The first goal may be attained through common curricula. Realizing economies of scale in training would require consolidating training programs, and not just common curricula.

Military medical training programs fall into three categories: (1) programs that provide standard medical training (for example, undergraduate and graduate medical education for physicians or radiology technicians); (2) programs that train personnel in military-unique skills; and (3) unit training programs.

Some of the programs in the first category are already joint activities; the most obvious example is the Uniformed Services University of Health Sciences (the military medical school). The curricula for the programs run by the individual services differ only to the extent allowed by the relevant accrediting body. Further, the Defense Medical Readiness Training and Education Council (DMRTEC) is directed to "emphasize training for interoperability, by conducting joint and multi-service training" and to ensure the training is provided efficiently.

Despite this oversight by the DMRTEC and the various accrediting bodies, there may remain some differences in the curricula. Even more important differences may arise in the implementation of the curricula in what are typically hands-on training programs. Further differences are introduced in some medical occupations by the considerable number of personnel trained in civilian programs prior to or during their active service. It is not obvious that a further effort to standardize curricula in the individual skills training programs would be productive.

We discuss medical readiness training at the individual and unit levels in Chapter Four. To the extent that personnel and units from the three medical departments might operate jointly, the training curricula must have the common elements that lead to interoperability. However, legitimate differences exist in the operational requirements of the services that require differences in the curricula.

The health-care committee of the Inter-Service Training Review Organization was directed by the Chairman of the Joint Chiefs of Staff in 1992 to review readiness medical training, subject to the oversight of the DMRTEC. As described in Chapter Four, the highest priority is on ensuring that personnel and units receive sufficient readiness training. However, ensuring interoperability is also an important objective of these reviews. Interoperability of active and reserve medical units within a service is at least as important as interoperability of units from different services.

Joint-service review of the training programs does not guarantee that the curricula are appropriately unified, merely that coordinated curriculum changes may be considered. Joint training programs do provide this guarantee. Training programs that involve significant

patient care cannot be combined because the patients are distributed throughout the medical system. The only alternative for these programs is joint oversight, as is currently provided for physician residency training by the Flag Officer Executive Committee on Graduate Medical Education.

Many medical training programs do not require access to a population of patients. Even if these programs include service-specific instructional components, joint training may increase efficiency and generate cost savings. The analysis appropriate for determining which training programs to combine is complicated and requires extensive and detailed data (Schank et al., 1999; Shanley et al., 1997). The biggest potential source of savings is in the fixed support for a training program—for example, administrative personnel and curriculum developers—and in improved utilization of the training facilities. If these savings are small, there may be little point in combining programs.

Outsourcing the training to the civilian sector or employing distance learning may be more-efficient approaches, especially if they avoid the costs of moving personnel to a distant training location. In many instances, it is not possible to determine the most cost-effective approach without a pilot test (Shanley et al., 1997).

The rapid pace of technological development in both medicine and training puts a premium on having an organization capable of designing cost-effective training approaches well into the future. Therefore, the most important question about training may not be how to do it best today, but whether the cross-service working groups the DoD currently uses to coordinate training can provide this organizational capability. If not, strong central leadership in the form of a joint command may be required.

PRINCIPLES OF ORGANIZATIONAL STRUCTURE

At its most basic, organizational structure is the configuration of the hierarchical levels and specialized units and positions within an organization, and the formal rules governing these arrangements (Rainey, 1997, p. 170). Other writers on organizations argue that performance evaluation and reward systems are additional key elements of organizational structure and must be designed carefully to promote the organization's objectives. This appendix describes some of the principles of organizational design that are relevant to the MHS.¹

ALLOCATION OF DECISION RIGHTS

There are trade-offs involved in deciding whether to decentralize or centralize decision authority and how to organize subunits—for example, around products, functions, or geography. The private sector has tended to move to decentralized decisionmaking and product- or client-oriented organization, apparently to take advantage of information and other technologies and to respond to competitive pressures for timeliness and quality.

Lacking the kind of pressure for economic survival that private-sector firms face, DoD activities (and the activities of many other public organizations) have kept to more traditional approaches

¹This appendix draws on several texts on organizations in the public and private sectors. Those texts are Rainey (1997), Brickley et al. (1996), Milgrom and Roberts (1992), and Gortner et al. (1997). See also Jensen and Meckling (1992) and Bloom and Milkovich (1998).

characterized by greater centralization of authority and functional organization. One obvious reason is that change is risky (it might backfire) and threatens job security; without strong incentives, risk-averse public employees resist change.

It is also possible that other considerations make decentralized, customer-oriented organizational structures less desirable in the public sector. An obvious consideration that carries more weight in public organizations is public accountability. Private firms can weigh the expected monetary cost of fraud or bad decisions against the monetary gains of decentralized decisionmaking; public organizations have to consider the potentially high political cost of decentralizing authority.

In allocating the authority to make decisions, it is useful to differentiate among the following steps in a decision-making process: initiation of proposals, choice of the decision to be implemented, implementation, and monitoring. Initiation and implementation are elements of decision management, whereas choice and monitoring are elements of decision control.

To avoid the consequences of improperly aligned incentives or conflicts of interest, decision control and decision management are often separated. Decision management is decentralized to take advantage of specialized information at lower levels and decision control is centralized to make sure the decisions are consistent with broad organizational goals. However, there are situations that call for centralized decision management, for example, when significant innovation is called for and lower-level managers lack the necessary expertise and information to initiate change. Similarly, when decisions require local information not readily available to central managers, they are delegated to local managers.

The optimal allocation of decision rights in an organization depends on a complex set of factors. Those identified in the literature include the following:

- **Location of specialized knowledge needed to manage cost effectively.** If unit managers have important knowledge that cannot be easily communicated to higher levels, decisionmaking is likely to be decentralized.

- **Technological change that renders existing specialized knowledge obsolete.** Unless knowledge of new technologies can be easily transferred to lower-level managers, decisions involving choices of technology will be centralized.
- **Benefits of rapid decisionmaking.** Centralized decisionmaking tends to be slower because it requires more communication.
- **Training and motivation (incentives) of workers and managers at different levels.** Decentralized management requires well-trained and motivated local managers.
- **Requirements for and costs of coordination across subunits within the activity, as well as communication of information up and down the management hierarchy.** If information transfer is poor, central managers will not be able to make well-informed decisions and communicate them effectively. If considerable coordination across units is required, decisions may be made at higher levels.
- **Ability to monitor decisions and outcomes.** If management cannot easily observe decisions made at lower levels, they may prefer to keep more decisionmaking authority.

One additional factor that is important in public organizations is the ability to change existing constraints. For example, the factors just listed may lead to a strategy that fully decentralizes operational decisions and allows the low-level manager to freely allocate his resource mix subject to an overall budget constraint, or perhaps an output target.² If laws and regulations that limit resource flexibility remain in place, decentralization becomes less beneficial, and therefore a constrained cost-benefit analysis may show that a more-centralized strategy is best.

Outsourcing is an important element of the allocation of decision rights. In determining an organizational structure, outsourcing decision and processing authorities (that is, contracting them out) are assigned. What to outsource and to whom to outsource it are typi-

²Activities may be given both a budget and output target, but in practice one or the other must be flexible—oftentimes it is the budget constraints, which are altered through reprogramming.

cally assigned to whomever has authority over the production process, but some contracting requires highly specialized skills and generally is assigned centrally. Increasingly, simpler contracts (including spot market purchases) can be handled at low levels and even larger purchases are authorized locally, even though they may be purchased centrally to obtain discounts.

PERFORMANCE EVALUATION

Outcomes are monitored to determine how individuals and units in the organization are performing and to provide a basis for rewards. Centralized and decentralized organizations monitor performance as part of their continuous improvement processes, and decentralized organizations rely on monitoring to ensure that local decisions are consistent with corporate goals. Effective performance evaluation requires that the organization establish clear goals and develop meaningful measures of them.

It is important to monitor all outcomes that are valued, not just the ones that are the target of reform. At a minimum, these include measures of the quantity of output as well as its quality and production cost.

There is a growing realization that monitoring quality is critical in managed-care organizations that have strong incentives for efficiency, for example. Health-care quality is a good example of an outcome that is difficult to measure.³ Its importance is indicated by the vast sums of money that have been and are being spent on developing quality measures.

Objective measures are preferred over subjective measures to ensure fairness and to avoid so-called influence costs (costs that are incurred when managers and workers try to influence outcomes, measures, or decisions), but subjective measures are often also required.

³Health-care quality typically is defined to mean both technical (clinical) quality and quality as perceived by the patient (which includes the components of customer service).

Performance measures are assessed against some standard and a number of issues are to be considered in determining what standard to use in a particular situation. Benchmarking is a form of relative performance standard; it works well when the benchmark reasonably could apply to the organization being evaluated.

The critical importance of monitoring is emphasized repeatedly in the organizational literature and it is clear that the return to investment in information systems or other methods of data collection is generally thought to be high in the private sector. Because information collection and inappropriate performance measures are costly, the design of the systems and measures should be done carefully to support the organization's strategy and modified as that strategy changes over time.

INCENTIVES AND REWARDS

Scholars agree that well-designed incentives are key to success, but they disagree about which kinds of rewards are most effective: material rewards (for example, incentive pay) or nonmaterial rewards (for example, improvements in working conditions); extrinsic rewards (given by others to the individual) or intrinsic rewards (feelings of accomplishment); or individual or group rewards. The possibilities are seemingly endless.

The economics literature tends to emphasize material rewards, which have the advantage of being tangible so that it is clear when a reward has been earned and given.⁴ A few management experts believe that monetary rewards in particular are ineffective and potentially counter-productive. Certainly, they are counter-productive if they are not designed properly. Furthermore, there are situations in which none of the feasible incentives are efficient; in these cases, straight salary is preferred.⁵

The evidence suggests that incentive pay is less effective when the outcomes to be rewarded are uncertain, the influence of workers and

⁴Prendergast (1999) comprehensively reviews the theoretical and empirical economics literature on incentives.

⁵Zajac and Westphal (1994) find in an empirical study of 400 large corporations that "maximal" incentives are not always optimal.

managers on these outcomes is difficult to detect, and personnel are risk-averse or unresponsive to rewards. In this regard, studies of public employees suggest that they are more risk-averse than other employees but respond well to intrinsic rewards such as recognition. This is fortunate because public organizations typically are constrained in their use of extrinsic rewards such as bonuses.

INTERVIEWEE LIST

To update the viewpoints on the military health system contained in earlier studies, we interviewed a number of senior DoD officials for this report. A list of those interviewees follows.

OFFICE OF THE SECRETARY OF DEFENSE—HEALTH AFFAIRS

(Acting) Assistant Secretary of Defense (Health Affairs)*
Deputy Assistant Secretary of Defense (Medical Readiness)
Executive Director, TRICARE Management Activity
Deputy Executive Director and Director of Operations,
TRICARE Management Activity
Programming and Budgeting Staff, Health Affairs and
TRICARE Management Activity

OFFICE OF THE SECRETARY OF DEFENSE—OTHERS

Under Secretary of Defense (Personnel and Readiness)*
Deputy Director, Program Analysis and Evaluation (PA&E)
and staff
Comptroller and staff*

JOINT STAFF

Director, J-4*
Staff, Medical Readiness Division, J-4

MEDICAL DEPARTMENTS

Surgeon General of the Army
Surgeon General of the Navy and senior staff
Surgeon General of the Air Force

OTHER SERVICE LEADERSHIP

Under Secretary of the Army*
Under Secretary of the Navy*
Under Secretary of the Air Force*
Vice Chief of the Army*
Vice Chief of Naval Operations*
Assistant Commandant of the Marine Corps*

REGION 11

Acting Lead Agent, Region 11 and Acting Commander,
Madigan Army Medical Center
Director, Region 11 and staff
Madigan Army Medical Center, senior staff
McChord Air Force Clinic, senior staff
Bremerton Naval Hospital, senior staff

OTHERS

Vice Commandant, U.S. Coast Guard*
Assistant Surgeon General, U.S. Public Health Service and
Director of Health and Safety, U.S. Coast Guard
Former DoD officials:
Deputy Assistant Secretary of Defense (Medical Readiness)
Surgeon General of the Army
Surgeon General of the Navy
Deputy Secretary of Defense
Director of Program Analysis and Evaluation
Director, VA and Military Health Care, Health Education and
Human Services Division, U.S. General Accounting Office

*Member of the Defense Medical Oversight Committee

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Since the end of World War II, the question of whether to create a unified military health system has arisen repeatedly. Despite a variety of answers to this question, the system has largely retained its traditional structure, with separate Army, Navy, and Air Force medical departments. Now that a new managed-care program—called TRICARE—is operational, the military health system organization is once again in the spotlight. This book documents research on the organization of the military health system. It considers five alternative organizational structures for their likely impact on peacetime health care and wartime readiness. It also examines organizational models in the civilian managed-care sector that might be applied to TRICARE. The authors recommend modification of the current system organization to unify health-plan management in TRICARE and separate it from military treatment facility management. The authors also find that there is insufficient evidence to predict the necessity or effectiveness of establishing a joint command to direct the restructured TRICARE organization and other military medical activities. The outcome of a regional test, now underway, can better inform this decision.

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